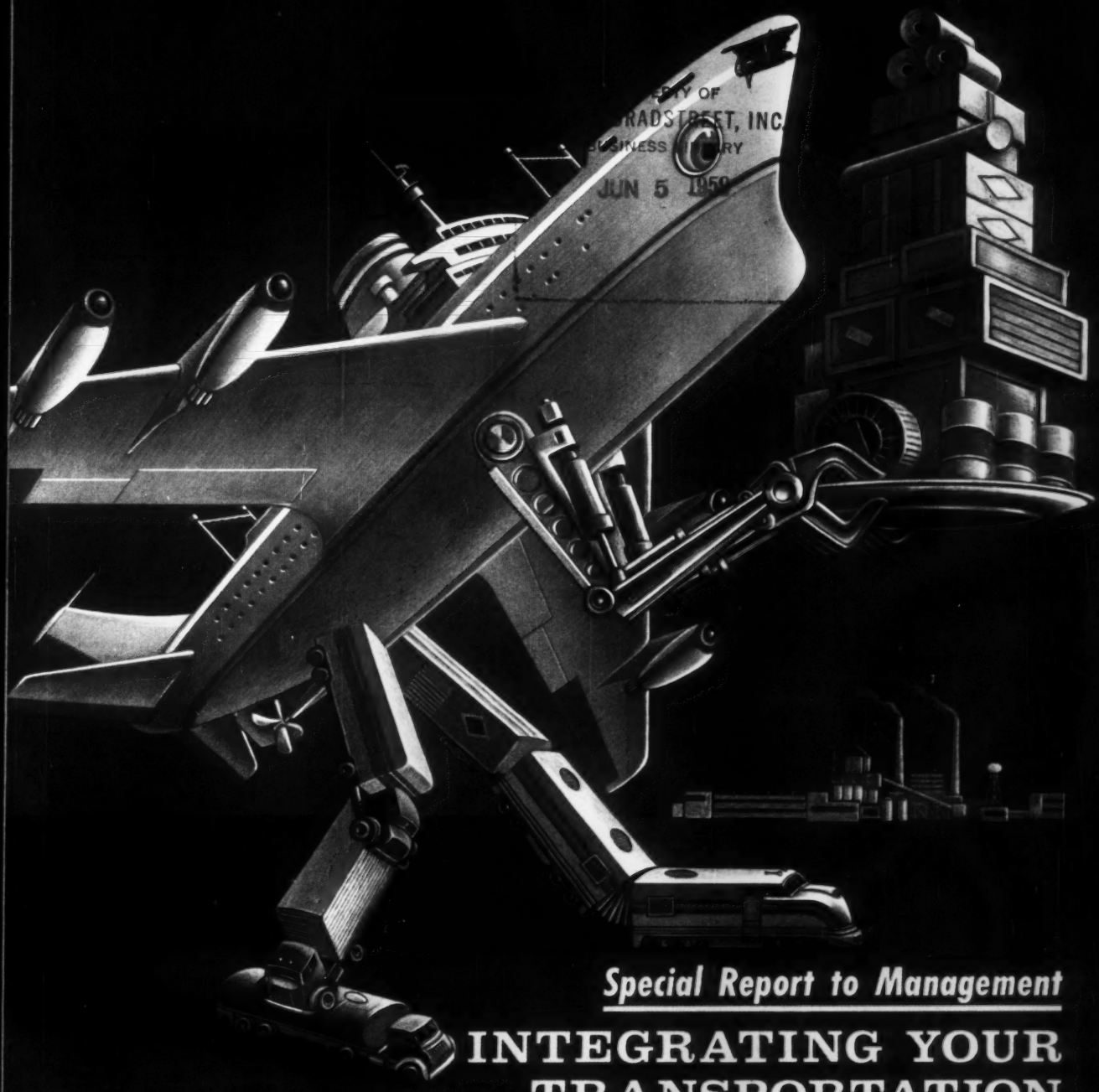
June 1959 75¢

DUN'S REVIEW and Modern Industry



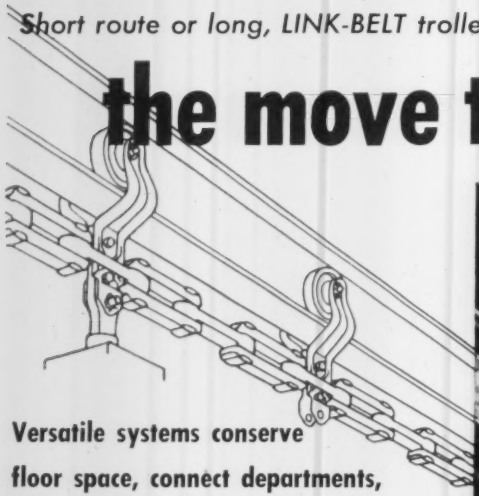
Special Report to Management

INTEGRATING YOUR TRANSPORTATION FOR PROFIT

A DUN & BRADSTREET PUBLICATION

Short route or long, LINK-BELT trolley conveyors trim costs in

the move to modernization



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Editorial

Overseas Trade Dilemma

THE NEXT five years in overseas trade will test our patience and our pocketbooks. The highways of trade in the more or less free world have a soft crust, a danger that cannot be ignored by our industrialists, despite distractions at home.

It's about time we realize how the economic ferment in other countries—some friendly, some coy, and some candidly irritated—can affect our own business welfare. The anatomy of trade is so sensitive that a pinch, kick, or caress at Melbourne, Johannesburg, Rio de Janeiro, or Helsingfors is felt almost instantly in Chicago, Marseilles, Toronto, or Istanbul. We should offer no complaint against any nation's effort to put a solid base under its credit abroad and its money at home. We should even feel a certain pride in the renewed capacity of West Germany, Italy, and Japan to employ our dollars, machinery, and know-how in competition with Uncle Sam.

Logic is no help to international amity when Congress, by setting up tariffs to protect domestic industry, stiff-arms a political ally because he is a challenger in trade. Any attempt on our part to protect home industry on its inflated plateau by punitive imposts or restrictive quotas brings immediate squeals of pain from abroad. When coffee prices collapse in Brazil because production runs ahead of consumption in U.S. markets, it's Uncle Sam who gets a scolding in the Portuguese vernacular. Our former ward, the Philippines, permits the current sugar quota restriction to cloud happier memories—and Uncle Sam is cussed out in Tagalog.

Whatever the short-term pains may be for our economy, we must welcome any long-term trade benefits which will lift the buying power and living level of less fortunate peoples. Already, Japanese workmen are demanding wages which will allow them a better living standard. But this upward adjustment of wages overseas will be slow. For several years, at least, low-cost imports will test all of our techniques in productivity to maintain a competitive price structure.

While big steel and big labor debate the price-wage spiral, steelmakers abroad are delivering plate in America at less than we can produce it. Undeniably, there is a hazard here to our prime position as a creator and processor of wares for home consumption as well as world markets. But international trade is with us to stay, for better or for worse. If we try to ignore it, the consequences can be disastrous.

Much of the world which we call "free," by a generous use of the term, looks to the United States for aid by dollars and muscles rather than by precept. If overseas competition gets irritating, we may have to grin and bear it for a while. In the long run we shall prove, as we have proved in the past, that Americans have the ingenuity to meet any trade situation without losing friends or customers. But we should lose no time in appraising the current challenge to our ability to buy and sell profitably in any marketplace, at home or abroad.

The Editors

LOOK *for improvements in industrial handcleaners*

A NEW WAY to clean working hands

There has never been such a combination of *plus* features to keep workers' hands healthy—and therefore on the job day after day!

It's a brand new scientific formulation — non-depleting Lan-O-Kleen *PLUS*.

It's WEST'S famous Lan-O-Kleen handcleaner . . . *plus* a softer scrubbing action . . . *plus* a gentler sudsing action . . . *plus* a soothing lanolin action!

All of which combine to combat the depletion of natural skin oils while hands are being washed clean.

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The Trend of BUSINESS

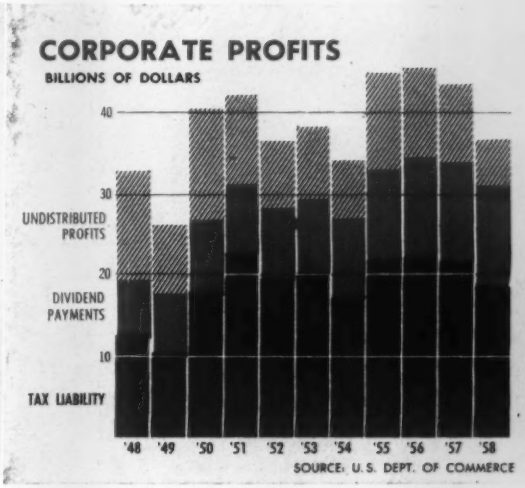
» **PROFITS:** ***Marked year-to-year gains in corporate profits will be maintained for the rest of the year.***

» **PRODUCTION:** ***Following a temporary setback this Summer, industrial output will move into new high ground in the Fall.***

» **INCOME:** ***Reflecting a gradual decline in unemployment and higher wages, personal income will remain at record levels.***

» **FAILURES:** ***Although the failure rate edged up in April, it was below a year ago for the sixth consecutive month (page 13).***

» **EXPECTATIONS:** ***Sales prospects for the third quarter are bright, according to a new survey (page 16).***



First Hints of a New Boom?

NOW THAT most pre-recession peaks have been matched or surpassed and the recovery is completed, business men are closely watching the rate of expansion, and speculating whether a boom is in the making. After a temporary—but a somewhat more than seasonal—setback in the third quarter, the economy in the last three months of the year will move to new high ground.

Industrial output will subside a bit from second quarter peaks in the Summer months.

Aside from seasonal influences, the extent of a third quarter decline in physical output will depend largely on whether a steel strike occurs and its length if it does occur, and on the sales of new passenger cars. Backed by continued high levels of consumer spending and gains in capital expenditures, over-all production in the fourth quarter will more than make up for the Summer setback, and new peak levels will be achieved.

Higher production levels in the Fall will mean that more people will be put to work, and the number of jobless will be gradually reduced. Although the labor force will continue to expand, unemployment as a percentage of the labor force will dip before the end of the year to somewhere near the pre-recession average of 4 per cent. The number of employed will hover around record levels.

With more people at work, personal income will reach new record levels for the rest of the year.

Although the rate of increase will slacken somewhat this Summer, more noticeable gains in personal income will occur during the final quarter. This will stem mainly from substantial rises in wages and salaries.

Consumers will spend more as they gain confidence from favorable reports of income and employment, and retail trade will continue to edge up to new record levels. Year-to-year gains still will be more noticeable in durable goods than in other lines.

Prompted by the steady gains in consumer buying, business men will keep on building up their inventories, but caution will be the byword and expansion will be gradual. Here again, gains in the fourth quarter will be more significant than in the preceding three months. Stocks are currently low in relation to sales, a good sign that inventory accumulation will be sustained.

Higher sales and continued cost cutting will mean wider corporate profit margins.

For the rest of the year, corporate profits will show marked year-to-year gains, and the level for the year as a whole will approach, or possibly reach, a new record. This will encourage business men to revise upward their plans for capital spending, especially for the last quarter of this year and for 1960. No sizable upturn in industrial building will occur much before the end of 1959, but higher outlays for commercial building and public construction will hold the over-all value of construction put in place at record levels.

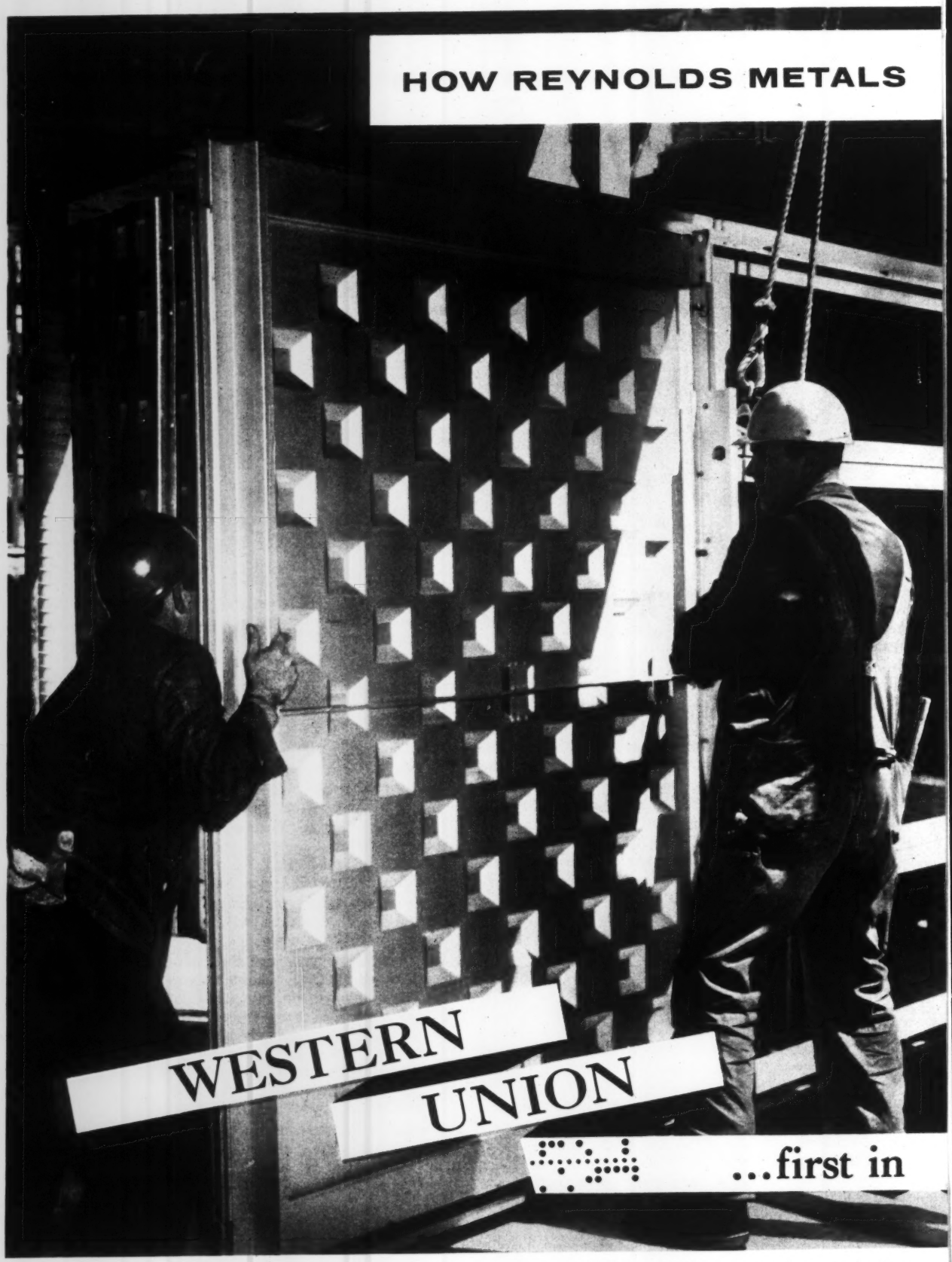
The growing cost of mortgage money will soon slow down the rate of home construction.

The number of housing starts will slip somewhat from the near-record levels set in the early part of the year, but the number for 1959 as a whole will be the third highest on record. Toward the end of the year, building costs will move up a little more significantly, also discouraging prospective home buyers.

The consumer price index, which has shown little change in the past few months, is likely to start edging upward early in the Fall. Steady food prices will be offset by higher costs on apparel, services, and housing.

Despite the fact that steel production is currently at a record level, an appreciable reduction is in prospect for the third quarter whether or not there is a steel strike.

continued on page 9


HOW REYNOLDS METALS
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CUTS ORDER PROCESSING TIME 87% WITH A

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PRIVATE WIRE SYSTEM

Custom-tailored communications network ties Reynolds' nationwide sales operation to production . . . instantaneously!

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HERE'S HOW REYNOLDS' "ORDERMATIC" SYSTEM WORKS:

Orders, typed on punched tape, go to switching center, for routing to production control and plant simultaneously.

Production control checks plant, shipping dates. Direct duplication methods produce necessary order copies.

Plant receives data; can schedule production immediately. Communications time cut from days to hours.

Management control is complete. By-product tape, compatible with data processing system, assures daily reports.

PRIVATE WIRE SYSTEMS

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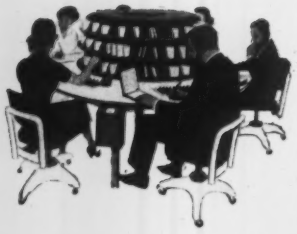
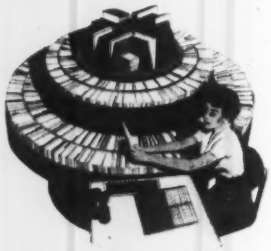
bring the work to the workers!



Many units are expandable and may be supplied either manual or motorized with compartment size and spacing to fit individual requirements.



Finger-tip control brings the record to the individual at working level—eliminates personnel movement and handling fatigue. Saves time of locating or filing—increases production. With all of the records easily accessible within the reach of several operators, the same personnel can accomplish more, easier and faster with greater coordination and less duplication of effort.

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(No. of records)
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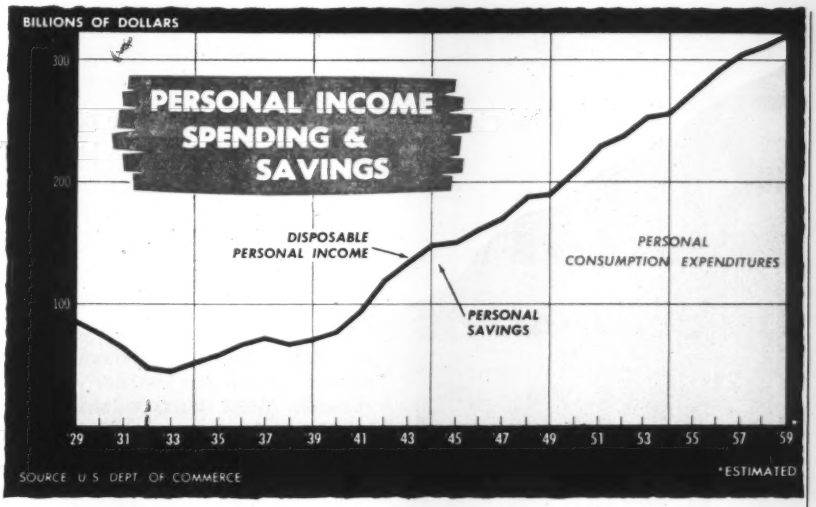


PERSONAL SAVINGS MOVE UP: *Higher levels of disposable personal income will allow consumers to save more and spend more, but increases will be cut by higher prices.*

Users will have enough steel on hand to tide them over a month-long strike, and if there is none, they won't need to place many new orders until the end of the Summer.

Steel output in recent weeks slid back a little as a result of some shutdowns for repairs and scattered wildcat strikes. This means that some users will not get all the shipments they had hoped for by June 30. The so-far-unsuccessful labor negotiations have led some observers to predict an extended strike after that date. Despite the recent leveling-off, steel ingot production for the first half of this year is likely to top that for any comparable period.

Autos and trucks doing well

With sales of new passenger cars running at the highest levels since 1955, automobile producers expect sales this year to be even a bit higher than the 5.5 million predicted.

Truck output for all of 1959 is expected to exceed 1.1 million units, up about 20 per cent from last year, but still below the record 1.4 million of 1951.

A review of the movement of the Federal Reserve Board's index of industrial production shows that, after adjustment for seasonal differences, the index took 27 months to return to the pre-recession high of December 1956 and fell 14 per cent before recovering. (This was a dual high. February 1957 and 25 months may be used if preferred.)

The 1949–50 downturn and recovery took seventeen months, and the low point was 11 per cent below that pre-recession peak. In the 1953–54 setback, the recession and recovery in the index lasted 22 months, with a decline of 10 per cent occurring during that time. Thus, recession and recovery in the last downturn took longer than in the other two postwar recessions, and the index fell further.

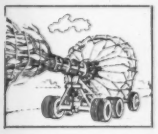
Unemployment declining slowly

Although the pick-up in industrial output resulted in more than seasonal declines in unemployment in recent months, the number as a percentage of the labor force did not show quite so much of a drop. This was because of the rise in the number of people entering the labor market. The recent dip (see chart, page 10) will continue for most of the rest of the year and will reach about 4 per cent of the labor force before the year is out.

The current rate is somewhere between 5.5 and 6.0 per cent, appreciably below the recession high of 7.5 per cent set in April 1958. It compares with the high and low points since 1929—about 16 per cent in 1931 and a little more than 1 per cent in 1944. In making these comparisons, it should be pointed out that the figures are not strictly comparable because of variations in the sampling techniques used and changes in the definition of the labor force.

Not only will the employment-unemployment picture brighten, but earnings will continue to move up. This will mean more personal income. But although this will allow con-

MANAGEMENT RELATIONS
through trees
by The Davey Business Adviser



Management's attitude toward employees and toward the plant community is being watched far more critically today than in former years. Not merely by labor but also by investors.

Good employee morale is built up from many factors. At the top of the list, however, is the feeling that management cares. Beautiful trees around a plant site subtly, but positively, give the feeling management does care.

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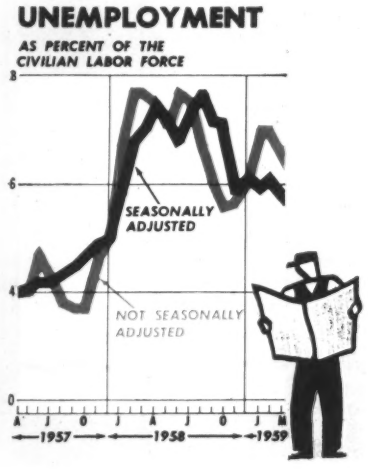
sumers to spend more, they will also save more (see chart). Personal savings slipped somewhat in 1957 and early 1958, but picked up from then on and are still rising. Although some observers do not place too much faith in the residual savings figure used, the chart does indicate the general movement of personal savings.

Bright outlook for retailers

Even though the rate of increase in consumer spending may not be so great as personal income, 1959 should be another banner year for retailers. Total dollar volume should be about 5 per cent higher than in 1958.

Year-to-year gains in durables will be quite a bit higher than in soft goods. This will be especially true of appliances and furniture. Early sales of air conditioners have been disappointing, but substantial gains will occur in early Summer. Stocks in some areas may be limited.

Moderate gains over last year will be maintained in sales of men's and women's apparel, linens, draperies, and food products.



THE UNEMPLOYMENT RATE *will gradually drift downward during the rest of the year. Source: U.S. Department of Labor.*

The recent upsurge in automobile purchases and the improvement in big-ticket durables has resulted in considerable increases in the use of consumer credit. Post-recession peaks in consumer installment credit outstanding have already been attained, and more new records will be set before the end of the year.

The steady rise in consumer buying will mean more volume for wholesalers and manufacturers and will encourage them as well as retailers to build up their inventories gradually. As was the case earlier this year, the increases over year-ago levels will be most noticeable in household durables.

Inflation stimulants

As volume in most consumer goods increases, prices will start creeping up from the plateau of recent months. This will be particularly true of appliances, because sales gains will be quite significant here. In addition, should steel prices have to be raised because of wage boosts, prices on appliances will rise even a little more noticeably than on such items as furniture, apparel, and services. Food prices will drift higher, but won't reach the record levels of 1958.

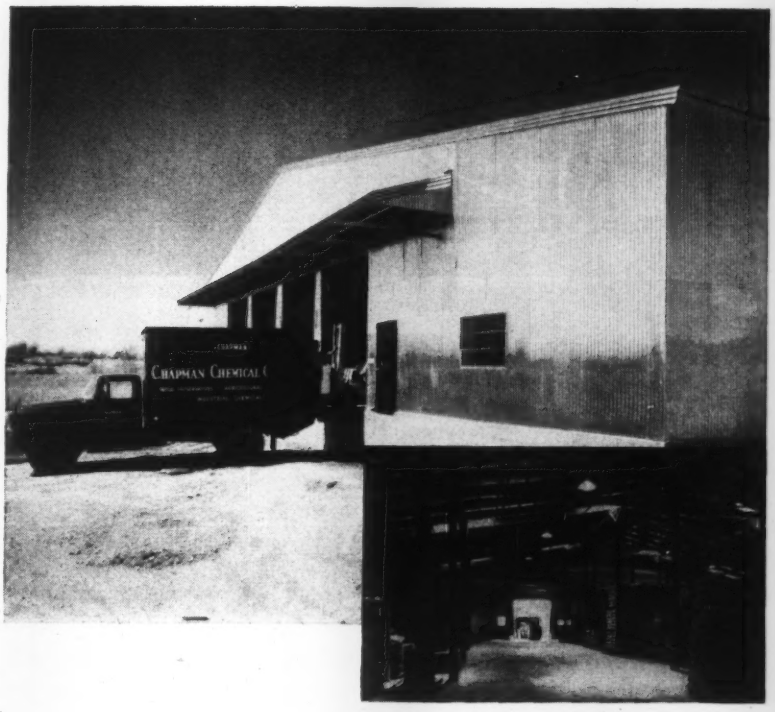
Another stimulant to inflation will be more financing of Government expenditures through commercial banks, which will put more money in circulation. Any substantial rise in the consumer price index will result in a hike of the discount rate by the Federal Reserve Board.

Many home builders are expecting mortgage money problems to slow down their sales pace. Mortgage money in most places is becoming more costly and more difficult to obtain. Although the level of housing starts will remain relatively high through the Summer, a slight letdown is likely before the end of the year.

Increased private outlays for stores, office buildings, and home alterations and modernizations, as well as more public spending on schools, hospitals, highways, and dams, will push the total dollar value of construction put in place for the year as a whole to another record level.

Following reports that preliminary labor negotiations were unsuccessful in the steel industry, stock averages on the New York Stock Exchange broke sharply in early May, but shortly regained most of their losses. Stock prices could be influenced further by fears that the steel negotiations will result in grants of wage increases and more inflation.

This report was prepared in the Business Economics Department, DUN & BRADSTREET, INC., by John W. Riday.



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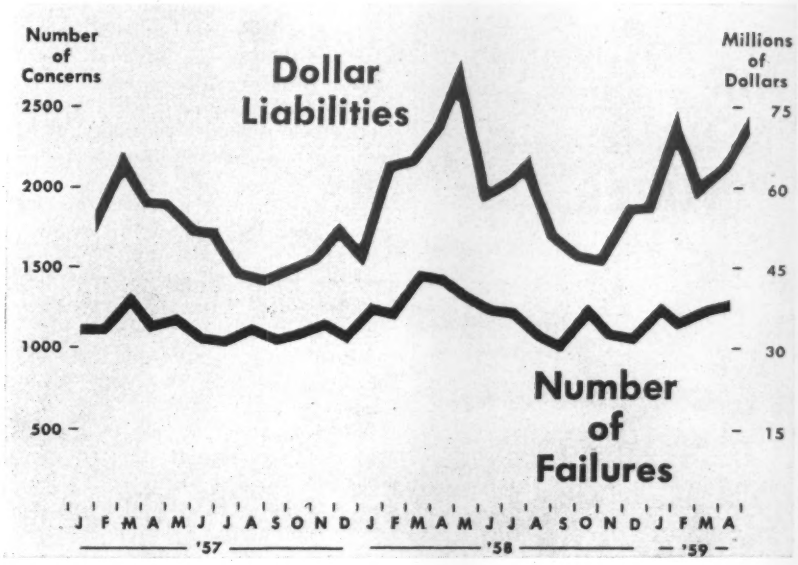
Business Failures



Casualty Rate Remains Low

BUSINESS failures, measured against total operating enterprises, remained relatively low in April, although increases were noted in numbers and dollar liabilities. The casualty rate edged up to 52 per 10,000 concerns listed in the DUN & BRADSTREET *Reference Book*. For the sixth consecutive month, businesses were succumbing at a lower rate than in the comparable period of the previous year. The failure toll in April 1958 stood at 60 per 10,000.

In all, 1,292 concerns failed this April, an eleven-month high but 11 per cent below April a year ago. Their liabilities, bolstered by a rise among casualties in excess of $100,000, climbed to $71.9 million. This volume was not so large, however, as last April's, when the postwar record of $83.9 million was set.

Retail and service businesses bore the brunt of the increase between March and April. The apparel store toll climbed steeply to the highest mark in more than two years, and restaurant mortality was the heaviest of the past six months. One out of three of the service casualties occurred in transportation. Another third centered in business and repair services. On the other hand, failures among manufacturers dipped to the lowest mark so far this year, with a decided drop in the machinery industry.

Fewer casualties than last year occurred in all types of operation except service. The downturn from April 1958 amounted to 21 per cent in both manufacturing and construction and 5 to 9 per cent in wholesaling and retailing. Among manufacturers, tolls fell in all industries except lumber,

THE FAILURE RECORD

	Apr. 1959	Mar. 1959	Apr. 1958	% Chg.†
DUN'S FAILURE INDEX*				
Unadjusted	55.6	54.4	63.3	−12
Adjusted, seasonally	52.0	50.4	59.7	−13
NUMBER OF FAILURES	1,292	1,263	1,458	−11
NUMBER BY SIZE OF DEBT				
Under $5,000	203	160	189	+ 7
$5,000–$25,000	584	596	664	−12
$25,000–$100,000	366	387	422	−13
Over $100,000	139	120	183	−24
NUMBER BY INDUSTRY GROUPS				
Manufacturing	202	210	257	−21
Wholesale trade	132	126	139	− 5
Retail trade	671	625	737	− 9
Construction	166	185	209	−21
Commercial service	121	117	116	+ 4
LIABILITIES (*in thousands*)				
CURRENT	$71,907	$65,051	$83,977	−14
TOTAL	72,659	66,646	86,622	−16

*Apparent annual failures per 10,000 enterprises listed in the DUN & BRADSTREET *Reference Book*.

†Percentage change, April 1959 from April 1958.

In this record, a "failure" occurs when a concern is involved in a court proceeding or in a voluntary action likely to end in a loss to creditors. "Current liabilities" here include obligations held by banks, officers, affiliated and supply companies, or the governments; they do not include long-term publicly held obligations.

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furniture, and transportation equipment. Failures were only half as numerous as last year in the food, leather, and iron and steel manufacturing lines.

Retailers generally suffered fewer casualties than in the previous April. Among furniture and appliance dealers, the decline was considerable—48 per cent. Construction mortality fell in both general building and subcontracting.

Geographically, month-to-month trends were mixed. But all regions showed improvement from year-ago levels except the Mountain and South Atlantic States. In the latter area the toll rose to a new postwar high. In contrast, business mortality dropped sharply in all East and West South Central States.

Although tolls in the large cities held even with March, both city and non-metropolitan districts reported declines from 1958. Detroit, Baltimore, and Boston failures fell off noticeably, but the New York total moved higher.

FAILURES BY DIVISION OF INDUSTRY

	Cumulative total January–April		Liabilities in million $	
	1959	1958	1959	1958
MINING, MANUFACTURING	834	965	73.6	102.1
Mining—coal, oil, misc.	26	33	3.6	4.9
Food and kindred products	57	78	5.0	6.2
Textile products, apparel	149	189	7.1	11.1
Lumber, lumber products	165	168	8.9	13.6
Paper, printing, publishing	56	57	2.9	3.9
Chemicals, allied products	22	19	1.5	1.0
Leather, leather products	29	48	2.7	7.4
Stone, clay, glass products	16	22	2.1	2.6
Iron, steel, products	47	61	3.0	5.8
Machinery	90	102	18.5	12.5
Transportation equipment	30	25	2.7	11.9
Miscellaneous	147	163	15.6	21.6
WHOLESALE TRADE	494	522	35.0	27.4
Food and farm products	115	117	12.9	6.0
Apparel	17	30	0.8	1.6
Drygoods	15	17	0.4	0.4
Lumber, bldg. mats., hdwre	49	68	4.1	5.3
Chemicals and drugs	17	12	0.4	0.2
Motor vehicles, equipment	31	27	2.3	0.6
Miscellaneous	250	251	14.2	13.2
RETAIL TRADE	2,520	2,825	98.7	91.0
Food and liquor	403	398	12.1	9.3
General merchandise	124	112	10.5	4.6
Apparel and accessories	437	494	22.4	14.7
Furniture, furnishings	304	422	12.2	18.1
Lumber, bldg. mats., hdwre	158	190	5.4	7.0
Automotive group	331	384	8.8	15.8
Eating, drinking places	463	510	13.8	13.8
Drug stores	37	47	0.9	1.0
Miscellaneous	263	268	12.6	6.8
CONSTRUCTION	703	764	35.4	40.1
General bldg. contractors	239	320	17.8	22.8
Building subcontractors	402	402	14.1	14.7
Other contractors	62	42	3.5	2.6
COMMERCIAL SERVICE	438	394	26.4	24.6
TOTAL UNITED STATES	4,989	5,470	269.1	285.3

Liabilities are rounded to the nearest million; they do not necessarily add up to totals.

This report was prepared in the Business Economics Department by Rowena Wyant.

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Business Men's Expectations

Third-Quarter Prospects: Sales and Profits Look Good

THIRD-QUARTER OUTLOOK

COMPARED WITH YEAR-EARLIER OPINIONS

% in 1958 Up	Same	Down		% in 1959 Up	Same	Down
			ALL CONCERNS			
41	40	19	Sales	74	24	2
29	50	21	Profits	59	37	4
13	80	7	Prices	27	71	2
16	63	21	Inventories	33	60	7
10	79	11	Employment	16	81	3
			MANUFACTURERS			
41	39	20	Sales	77	21	2
29	48	23	Profits	64	32	4
12	81	7	Prices	24	73	3
16	64	20	Inventories	37	57	6
12	75	13	Employment	22	76	2
			WHOLESALERS			
43	40	17	Sales	70	28	2
27	53	20	Profits	51	44	5
14	79	7	Prices	31	67	2
18	63	19	Inventories	30	65	5
7	86	7	Employment	10	89	1
			RETAILERS			
35	43	22	Sales	72	24	4
29	52	19	Profits	59	38	3
14	77	9	Prices	27	70	3
17	58	25	Inventories	29	58	13
8	80	12	Employment	15	81	4

SALES and profits prospects for the third quarter of this year are bright, according to the large majority of business executives interviewed in DUN & BRADSTREET's latest poll of business men's expectations. Year-to-year sales gains were anticipated by 74 per cent of the 1,513 respondents, while 24 per cent foresaw no change, and 2 per cent expected declines.

The survey was conducted before the opening of labor negotiations in the steel industry, and there was no attempt to evaluate the effects of a steel strike, but the business men interviewed were undoubtedly aware of the possibilities of a sharp decline in steel production in the Summer.

Highest hopes for durables

The favorable sales expectations sales in the current poll nearly matched the record optimism shown in the previous survey, made three months earlier. And the respondents were much more hopeful than they were a year ago, when only 41 per cent looked forward to year-to-year sales gains in the third quarter of 1958. In the latest survey, manufacturers of durable goods, who were among the least hopeful a year ago, were the most optimistic about their sales prospects.

The proportion of respondents anticipating gains in the third quarter (59 per cent) showed little change from the previous survey, covering second-quarter expectations. Here again, makers of durable goods were the most sanguine, while wholesalers were the least optimistic.

The majority thought that the sales gains would be primarily in physical volume, since 71 per cent hoped to hold their selling prices at year-ago levels. Wholesalers and durable goods manufacturers were thinking most seriously about raising their prices in the third quarter, and price increases are least likely among makers of nondurables.

About one-third of all those interviewed—the same proportion as in the preceding survey—expected to expand their inventories. A year ago, only 16 per cent planned increases.

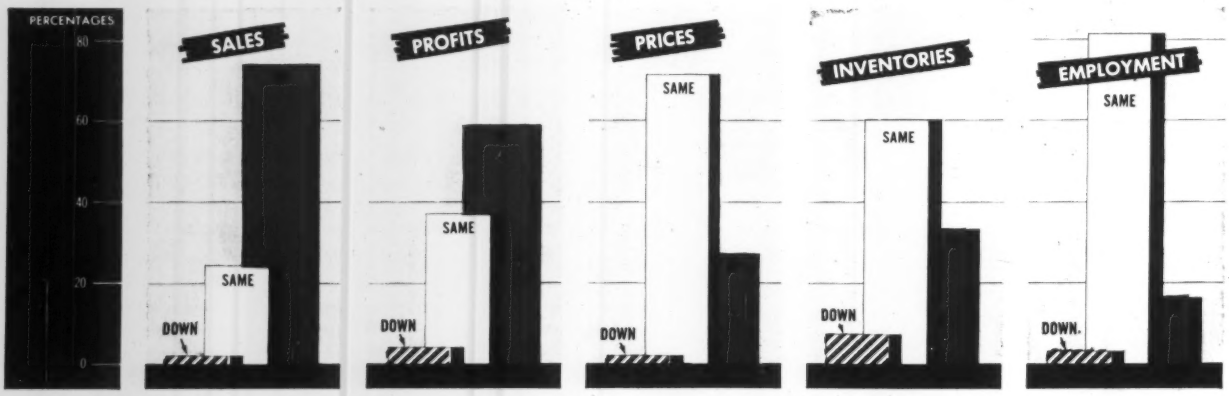
The opinions of manufacturers about new orders reflected a slight decline in optimism over the past three months. Durable goods manufacturers were again quite a bit more hopeful than were makers of nondurables.

Little change in job levels

Turning to employment and payrolls, manufacturers were a good deal more interested in building up their workforces than were retailers and wholesalers. Of all those interviewed, however, 81 per cent anticipated no year-to-year change in their employment levels.

In interpreting the results of this survey, it should be remembered that the answers are not a forecast, but an indication of the views held by a representative group of business men when questioned in mid-April.

—JOHN W. RIDAY
Business Economics Department



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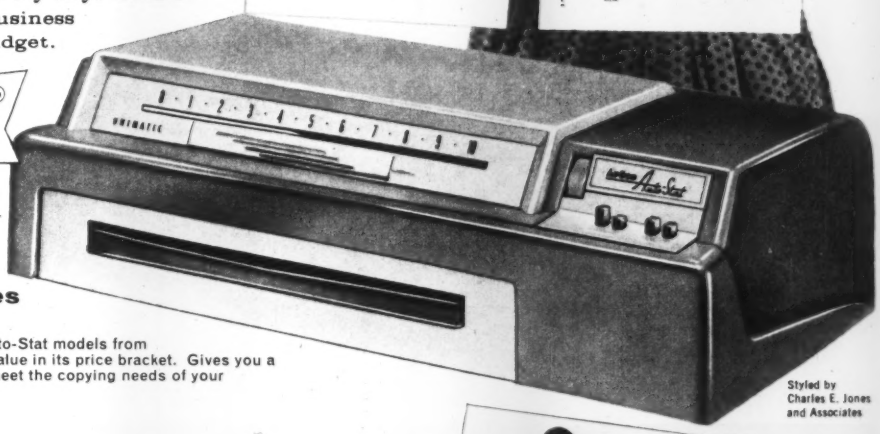

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WASHINGTON Business Front

JOSEPH R. SLEVIN

- ***Tighter credit restraints are being applied to make the most of the nation's chances to avert inflation.***
- ***No inflationary legislation has yet come from the Democratic Congress—but watch out for 1960.***
- ***Vote-minded Congressmen prevent cancellation of costly, unnecessary defense projects.***

WASHINGTON, D.C.—The Federal Reserve System figures that the United States has a shining opportunity to prevent inflation, and it is doing what it can to make sure the chance won't be missed. Money is slowly becoming tighter. Interest rates are edging higher. Bankers are scrutinizing loan requests more carefully.

These developments are directly traceable to the moderate credit restraint policies that the Federal Reserve has been pursuing in an attempt to keep prices on an even keel.

Inflation looked like a grave threat when the central bank began its anti-inflation campaign a year ago and it still looks like a grave threat today. But it remains a threat—it has not become an actuality.

What the central bank has done has been to put a ceiling on credit. It is willing to let the credit supply grow enough to take care of normal seasonal borrowing requirements and perhaps a little more. But that is all.

Rising business activity—and the huge Federal budget deficit—have been accompanied by mounting loan demands. The Federal Reserve has been allowing the loan demands in order to bring pressure on the credit supply. It could keep the pressure from increasing by feeding more cash into the banking system, but that would defeat its purpose. The extra cash would add to bank lending capacity and provide a base for a potentially inflationary expansion of credit.

There are two pressure gages here—interest rates and prices. Rising borrowing demands currently are pressing moderately against the available supply of money. Would-be borrowers are bidding against one another for loans and are pushing interest rates to new high ground.

The Federal Reserve holds no brief for high interest rates, but it believes it's better to let interest rates go up than to allow credit-financed buying to force prices up.

Good omens

The central bank has a number of reasons for believing that the United States has a good chance to prevent inflation. It's particularly happy about a marked change for the better in the Federal budget. Inflationary forces are being aggravated this year by the biggest peacetime deficit in history. But indications are growing that the budget will be almost—if not entirely—in balance in fiscal 1960, the year that will begin on July 1.

A balanced budget won't supply the positive anti-inflationary impact that would be provided by a budget surplus, but it's better than a deficit.

Another bright spot in the view of an inflation fighter is the persistence of some slack in the economy. There still are large pools of jobless workers, which means that the country isn't pressing against the limits of its manpower resources the way it was during the 1955–57 boom.

Buyers' market curbs prices

Most industries still have comfortable amounts of unused capacity, which means that buyers can get their orders filled quickly and without paying premium prices. Even better, it means that buyers can shop around, and sellers still have to compete for business. Industries throughout the free world also are actively looking for customers for the first time since World War II.

Productivity is rising sharply both here and abroad, which means industry can turn out more goods with fewer workers and is under less pressure to boost prices every time costs go up.

A favorable agricultural cycle is helping to offset upward pressures in some consumer areas. Living costs have been relatively stable, and workers who are covered by collective bargaining contracts that include escalator clauses have not been getting automatic cost-of-living wage boosts.

The Federal Reserve has no naive notions that the presence of a large number of favorable forces assures that the price line will be held. It says only that the opportunity is there, that it is a genuine opportunity, and that it should be seized.

The System is painfully aware that

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a large and powerful group of forces is at work on the other side. The most disturbing is the prospect that big unions and big corporations will boost wages and prices once again and will set off yet another round of general price increases. The Federal Reserve can't stop that from happening. But it can keep a tight enough rein on credit to prevent the money supply from expanding in phase with the price increases. It can decline to validate the price increases by refusing to enlarge purchasing power artificially to a volume that would temporarily support full production with unattractive high prices.

The central bank got the jump on this business upturn, instead of letting the upturn get ahead of it as it did in 1954. The bankers intend to stay ahead, for they know from bitter experience that there's no catching up once inflationary forces break loose.

Federal Reserve Board Governor J. L. Robertson, one of the most determined inflation fighters in the central bank, said a few weeks ago:

"The present policy of the Federal Reserve . . . is to so formulate and administer our decisions as to help create an environment that is conducive of stability of prices (and hence the soundness of the dollar), in order to maximize sustainable growth and genuine economic progress. We are not disposed to chart our course with the shortsighted view of disarming current criticism and possibly gaining a bit of popularity. Popularity should never be a goal of central bankers. Their only goal must be enhancement of the long-run economic welfare of the nation and all its people—including the generations to come."

Lackluster legislators

The Democratic-controlled 86th Congress is proving to be far from the fire-eating legislature that some conservatives had feared. The huge majorities controlled by House Speaker Sam Rayburn and Senate Majority Leader Lyndon B. Johnson are going about their business in stolid, unimaginative fashion.

Most close observers had expected Congress to be more middle-of-the-road than radical. Several recent developments have made it quite apparent that their appraisals if anything were overguarded.

For one thing, business activity improved more rapidly than had been

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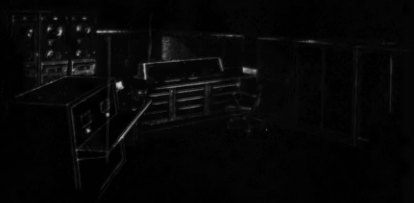

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expected and took much of the steam out of Democratic social welfare proposals. For another, President Eisenhower has succeeded in his drive to make the Democrats leery of being tagged as inflation-minded spenders.

The Republican-Southern Democratic coalition that once controlled Congress has reemerged as a potent force. The President can make vetos stick, and the Rayburn-Johnson leadership until now has been more inclined to try to write legislation that Mr. Eisenhower will sign than to secure the passage of bills that will create political controversy but won't become law.

Chances are that the story will be somewhat different in 1960. It will be a Presidential election year, and Congress will be more anxious to write a record that will point up the differences between the Democrats and the Republicans.

Politics and defense costs

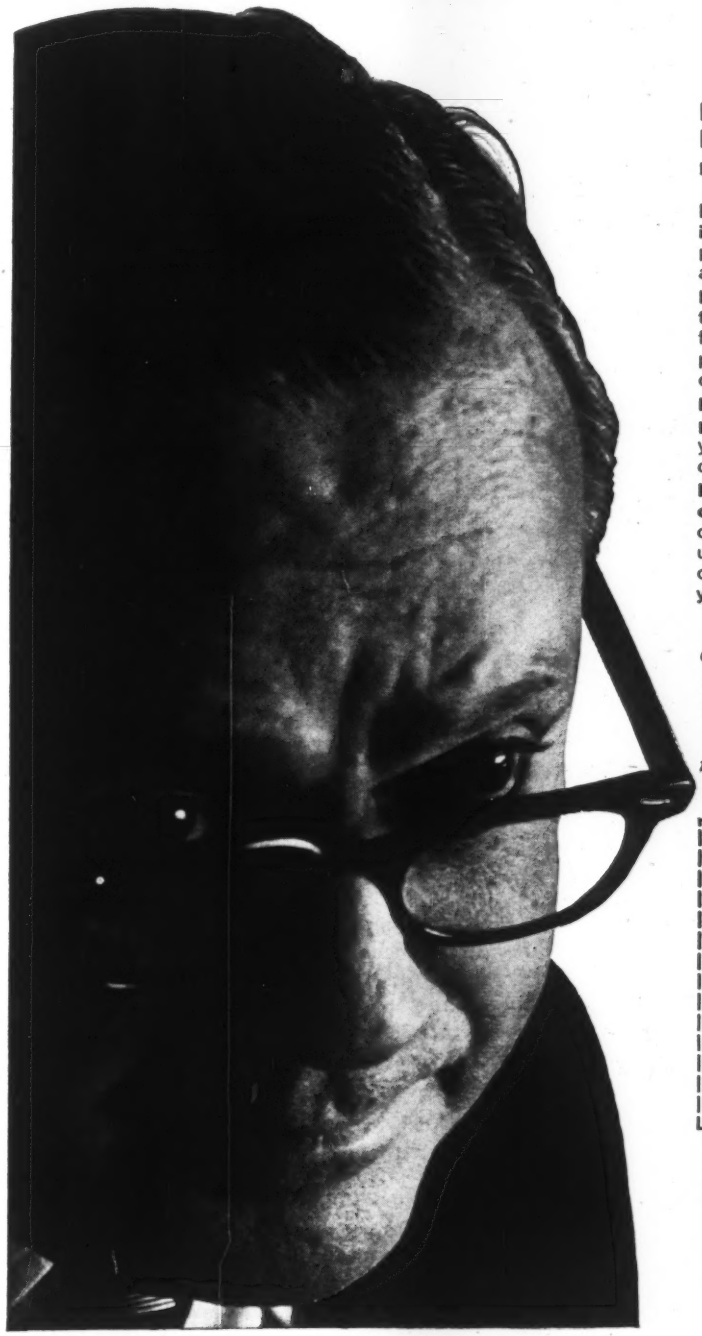
It isn't generally recognized, but local political pressures make it hard to reduce defense spending. People are aware that pressure from back home sometimes make it impossible to close down an unneeded Army camp. What is not so well known is that the same kind of pressures often keep the Defense Department from canceling a contract for weapons or materiel it no longer requires. You can turn a community into a ghost town just as effectively by boarding up a factory as by shutting down an Army camp, and Congressmen are as quick to protest the one as the other. One consequence: many contracts that ought to be canceled are "phased out," and the Defense Department receives—and pays for—a steady trickle of unneeded equipment.

The bloom is off

President Eisenhower is finding it increasingly difficult to get top-notch people to serve in his Administration. It's partly because the glamor has long since worn off the first Republican Administration in twenty years, partly because some prospects don't want to join an Administration that will leave office a year from next January, and partly because others don't want to give up lush private jobs to serve the Government. There will be very little new recruiting and much promoting from within throughout the remainder of the Eisenhower Administration. END

STYMIED?

Can't hire salesmen who don't own cars?



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Hertz cars change a morale-and-mileage problem into a great sales incentive. New cars maintain company prestige, minimize accidents. Mileage squabbles are ended.

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Now you can lease Chevrolets (or other brand new fleet cars) from the Rent A Car people...

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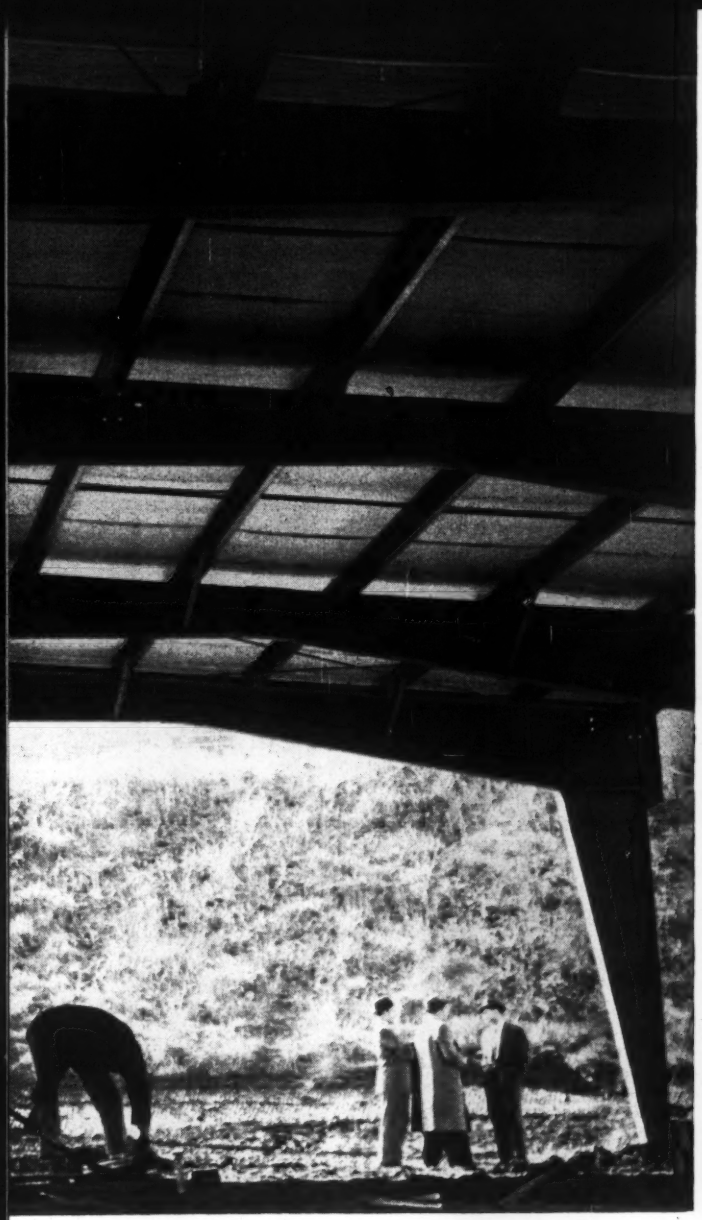
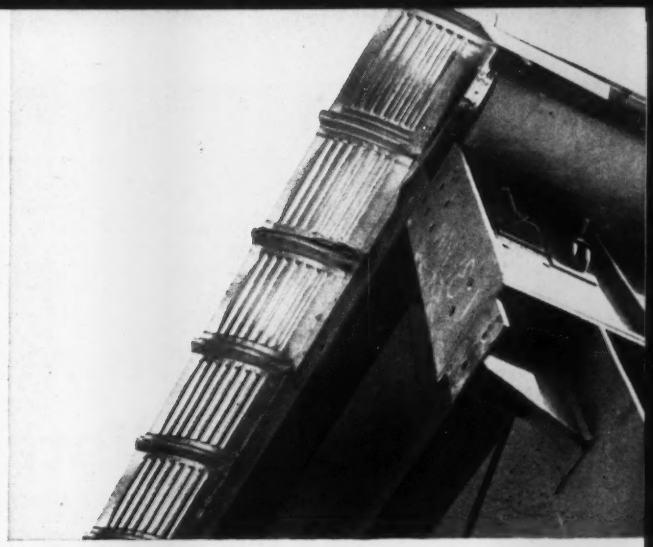
Here's a building that's solid as a rock

The Eimco Corporation of Salt Lake City wanted a new Pittsburgh Branch office and parts depot building, and they wanted it in a hurry. It had to be a strong permanent structure and an attractive one. So the architect used a factory-built steel building as a basis for the new building you see in the pictures.

The steel was delivered and the building erected in only a few weeks because all the parts were pre-engineered and ready to assemble. The structural steel frame was anchored in concrete and then the USS Galvanized Steel Sheets were bolted on and sealed to make a roof that's strong and tight as a steel drum. USS High-Strength Steels were economically used for the roof purlin supports. The building is 60′ wide and 72′ long, and every square foot of space can be utilized because the rigid





The teamwork of owner, Eimco Corporation, represented by Mr. J. Badge, Pittsburgh Branch Manager; architect, Mr. A. E.Tennyson; and steel building dealer represented by Mr. Wayne Agnew of Allegheny Standard Products Company, is shown here in action.

frame construction permits clear span floor area with a very attractive appearance.

Pre-engineered steel buildings can be completed with any type of exterior material. This one will have a brick and stone front and sides and concrete block in the rear. However, many other buildings like this are completely clad with USS Galvanized Steel Sheets.

You'll see more and more of these all-steel structures being built in your area. If you would like to have more information about them, just send the coupon.

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(Your request for information will be forwarded to the manufacturers of these buildings and you will hear directly from them. There's no obligation on your part.)

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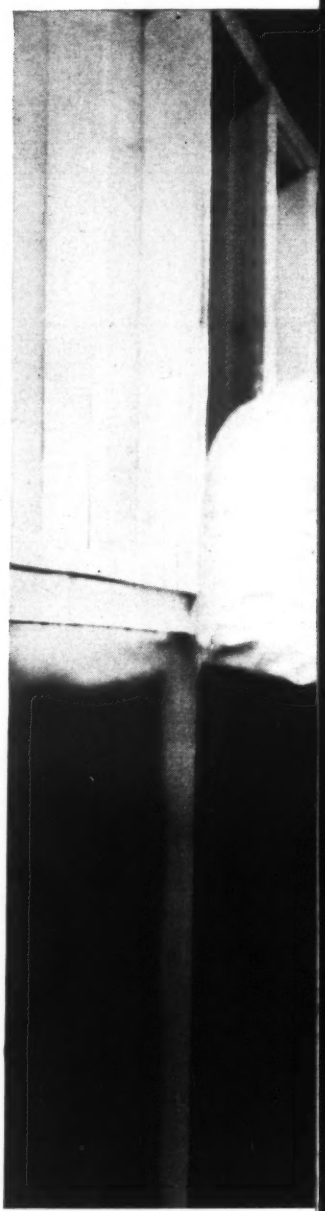

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From a convenience standpoint alone, it's well worth while to have a $99.50 Verifax Bantam Copier in every department.

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As systems men see it, this is far more than a convenience. It's smart management! For your company-wide savings in secretarial travel time alone (about 24¢ on each 10-minute trip) can pay for your Bantam Copiers in a month or two.

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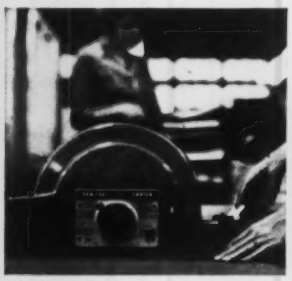
Fully capable—yet only $99.50

Despite its surprisingly low price, the new Bantam is a true Verifax Copier in every sense. Simple for anyone to operate. And so trim and compact you will find room for one in the smallest office. It's one of four fine models now available.

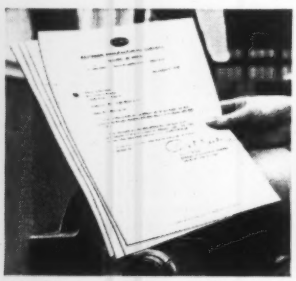
Call in your local Verifax Dealer for a demonstration of the Verifax Bantam Copier, and an estimate of the savings possible in your company with decentralized Verifax copying. (Check "Yellow Pages" under duplicating or photocopying machines.)

Price shown is manufacturer's suggested price and is subject to change without notice

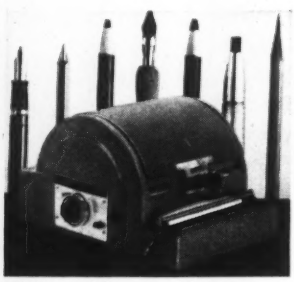
Kodak Verifax Bantam Copier outperforms copiers costing up to 4 times as much!



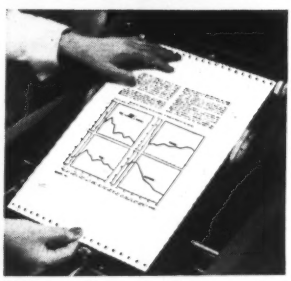
Makes 5 dry, clean, white copies in 1 minute for 2½¢ each. Verifax copies can be made on one or both sides of bond-type paper, card stock, your own printed office forms.



Verifax copies are accurate and complete . . . easy to read—have the look and feel of a good letterhead. And they'll last every bit as long as any typed record, won't fade or darken.



Write with anything — you can copy ball-point, crayon—what have you — as easily as typed data. And those purplish duplicator copies and rubber stamps are a snap to copy.



Even makes an offset master in 1 minute for less than 20¢, with low-cost adapter. A translucent master for whiteprint or blueprint machines can also be made in 1 minute for about 10¢.

At Raytheon Manufacturing Co., Waltham, Mass., more than 30 Verifax Copiers speed paper work.

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Also names of nearby dealers.

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On barn sides. On boat hulls. On cars and houses. Wherever you look, paint covers and protects.

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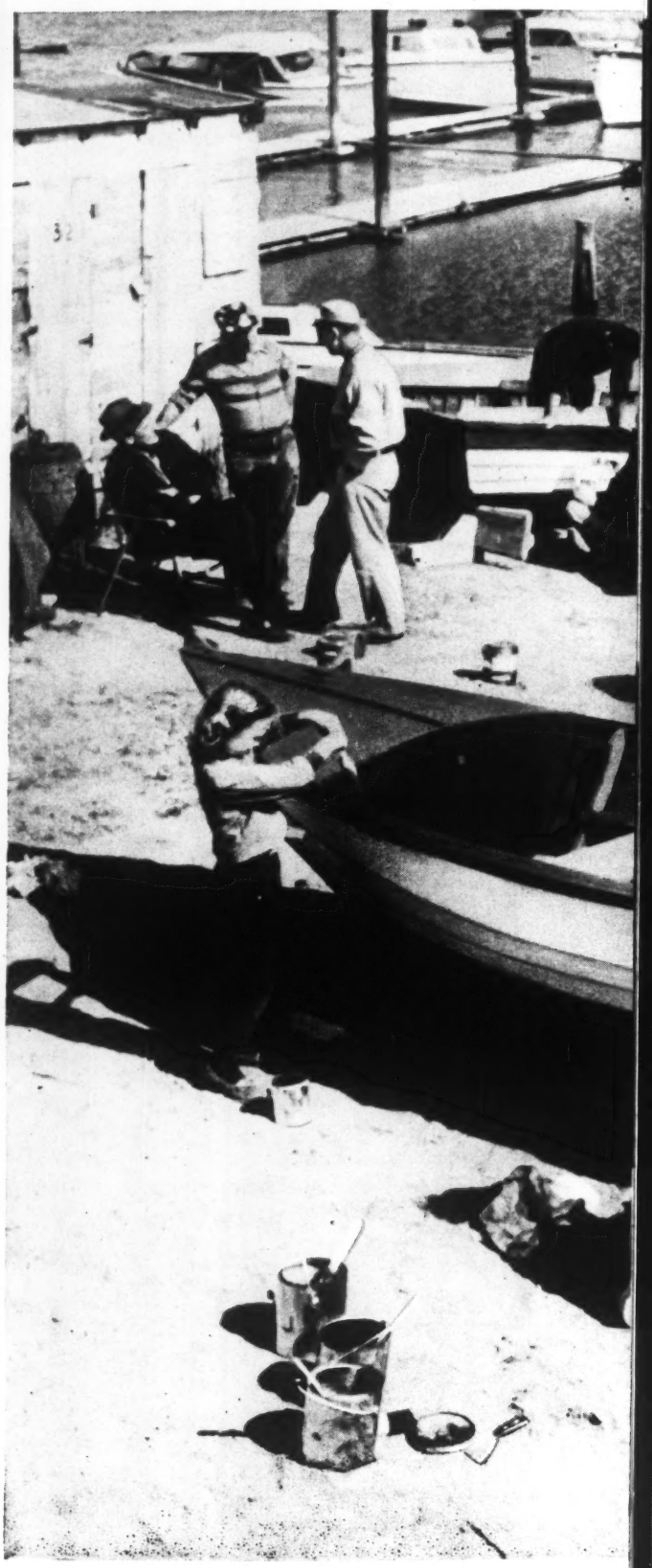

She does more, you save space

with this "L" work station from ASE

In the same floor area as an ordinary desk and chair, you can have additional work space and storage with this ASE "L" work station. This double exposure demonstrates the ease and convenience of the L-unit. It divides work into two areas—puts files, reports, reference material at fingertips. All you do is swing from one side to the other, no reaching, no lost motion.

The ASE L-unit is an efficient desk. It puts high-cost floor space to work and provides a better organized office layout. What's more, it's made to ASE quality standards—designed for easy care, lasting beauty. Why not ask your ASE dealer about this space-saving, time-saving L-unit? You will find a complete selection of colors as well as top materials.

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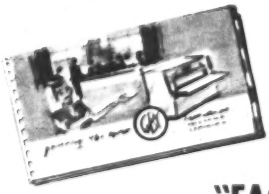

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"A mailing used to be a Big Thing around here—tied up three of us, and we all got behind in our other work. Now the Model 3300-FH and I can fold and stuff special mailings, or just daily mail, in my spare time, and get them all out easily."

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FREE: Handy desk or wall chart of postal rates with parcel post map and zone finder.

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Gentlemen:
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The ailment: This clerk *needs* a telephone for inside calls. But she's using it for outside calls, too—tying up lines you need for your *customers.*

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HENRY FORD II, *president, Ford Motor Company*

No Need for Hairshirts

Some people argue that our economic system could make a much better showing right now if we would merely be a little wiser and a little less selfish, if taxpayers would stop fighting tax increases, if farmers would give up some of their subsidies and veterans some of their benefits, and if Congressmen would stop pork-barreling. That may be. But it hardly seems realistic to suppose that we are suddenly going to be transformed into a nation of saints or hairshirt addicts. It's a pretty good bet that we will go right on being the frail and fallible human beings that we are.

The trick is to arrange things so we can do more and more without having to sacrifice more and more. And the way to do that is to expand our economic base as rapidly as we can soundly do so. If we can do that, we can and will have more of everything: higher living standards, more tax revenues, more social benefits, a better foreign economic program.

Let's try harder to get rid of the old-world craft guild psychology that locks people into marginal jobs and obsolescent skills. Let's make possible greatly increased business capital investment by permitting business profits to share reasonably in our economic growth and by wiser taxation. Let's try to stimulate greater consumption of goods and services by developing new, improved products.

Business and industry should find ways in which both private and public resources can be used more intelligently to stabilize employment and income in ways consistent with broad national growth in productive efficiency.

From a speech at Yale University.

CARROL M. SHANKS, *president, The Prudential Insurance Company of America*

Let's Change the Rules

A union's struggle for more dollar income is a means not of increasing the total standard of living, but of raising the standard of living of one group relative to another. This transfer of economic welfare is accomplished through a price rise, or inflation.

The pitiful thing about the inflationary process is that where workers in a weak bargaining position begin to realize dimly what is happening to them, their reaction is to attempt to increase their own pressure position so as to keep up with the leaders. Un-

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From Among 80
BIG JOE
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$199.00 complete
1000 lb. capacity
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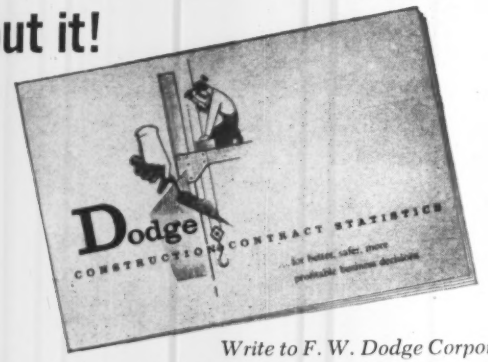
If your business is affected by new construction activity:

This free booklet may change your thinking about your market ...and what you can know and do about it!



Write to F. W. Dodge Corporation, Construction News Division, Dept. DR69, 119 West 40th Street, New York 18, N. Y.

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REPRESENTATIVES IN PRINCIPAL CITIES

fortunately, the current legal and institutional framework is such that, far from gaining on the leaders, they are likely to slip farther behind. Labor unions today are needed. They most frequently act in the social interest, and they have contributed and will continue to contribute much to our economic, social, and political life. But a labor union is an organization with vested monopoly powers, and it is not reasonable to assume that an unregulated monopoly of business or of labor will invariably use its powers in the social interest.

What is needed is not criticism of labor leaders, nor exhortations for moderation in wage demands, but a change in the rules of the game.

From a speech before the Akron Chamber of Commerce.

EDWARD MAHER, *vice president, public relations, National Association of Manufacturers*

Nowhere to Go but Up

The cause of conservatism may appear to have suffered a severe setback last Election Day. But I believe it has since been demonstrated that this setback was not due to any basic rejection of the conservative idea. It was due to the sheer political power the anti-conservatives were able to muster at the polls.

The conservative forces on Capitol Hill, having nowhere to go but up, have been fighting with more unity, more singleness of purpose, and more determination than ever before. And the result has been that the labor-liberals haven't been able to chalk up very much on the credit side so far, despite their great preponderance in both houses of Congress.

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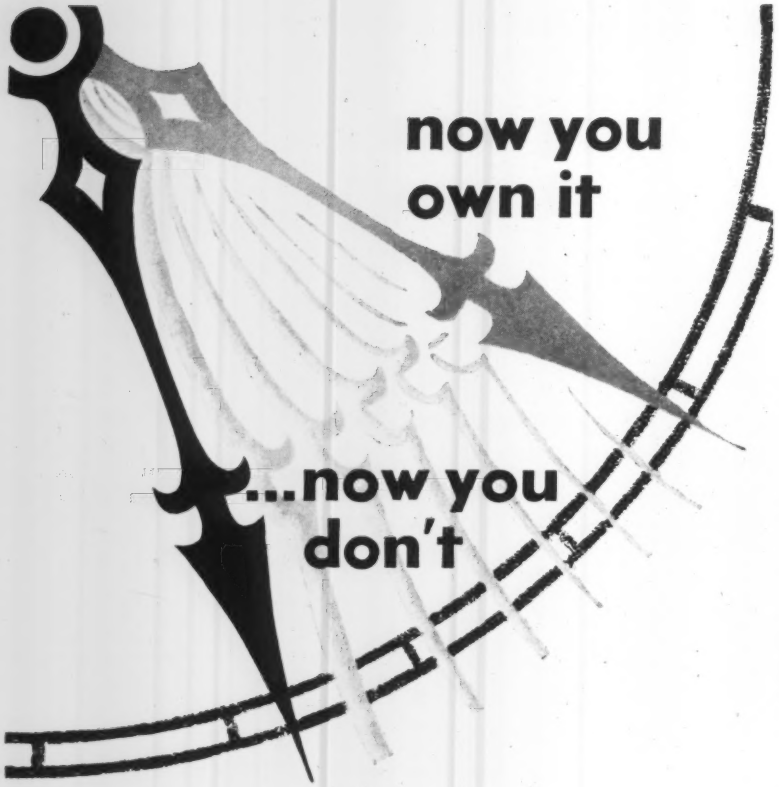

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We can only lick this situation by buckling down to the hard, grinding, unremitting work of grassroots politics. We can do it only by getting actively at work in both of our great political parties to prevent the labor-liberals from seizing absolute control of one or both of them. This must be done if there is to be any outlook for conservatism at all.

From a speech before the National Association of Architectural Metal Manufacturers.

J. THOMAS SMITH, *president, Detroit Harvester Company*

Report from Russia

I returned from a recent visit to Russia with the definite feeling that I had personally underestimated the Soviets and their industrial capacity. They are serious competition. We've got trouble ahead.

These people are producing, and they are consuming relatively little. The surplus production is going into machine tools and implements of war, but they are also building up their productive capacity by constructing dams, power units, and plants.

The Russian people are willing to suffer and put up with things now so that their children can have things in the future. Every year they have a little more, and there is no feeling of discontent or restlessness that I could detect.

The Soviet leaders say frankly that they are out to take world leadership away from the United States by 1972. Khrushchev insists they are going to compete with the United States on a big production basis. He really believes it. And, what's more, I believe they have a good chance of doing just that.

From a speech before the Federal Bar Association at Detroit.

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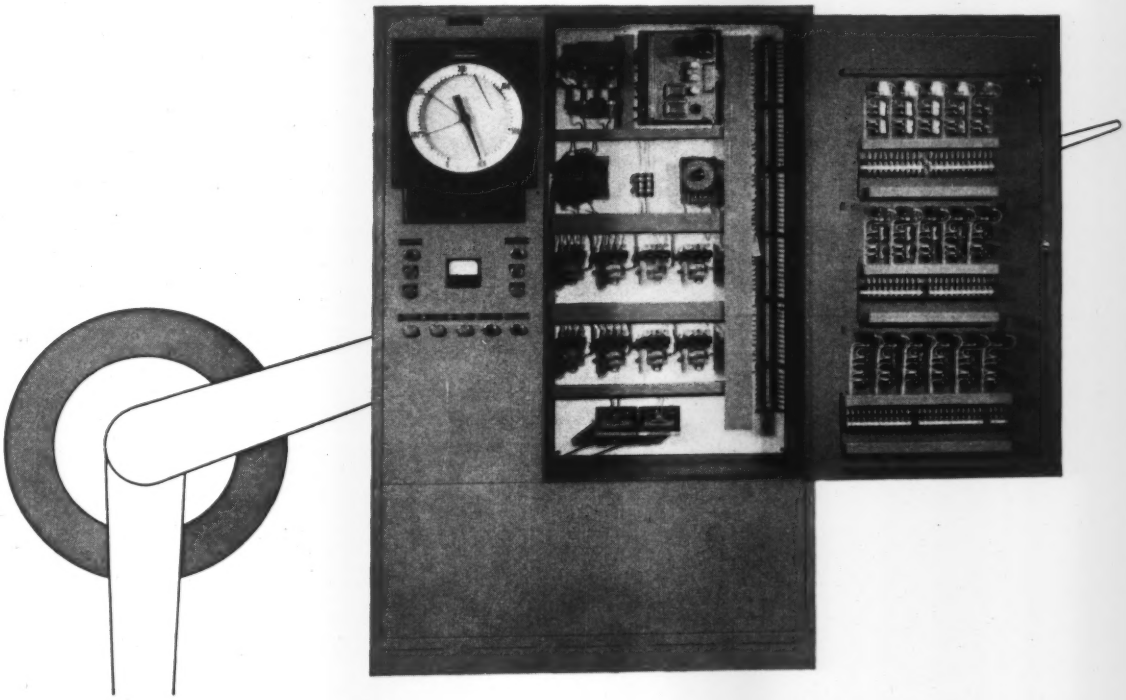

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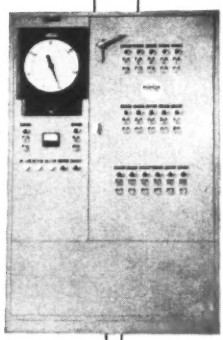

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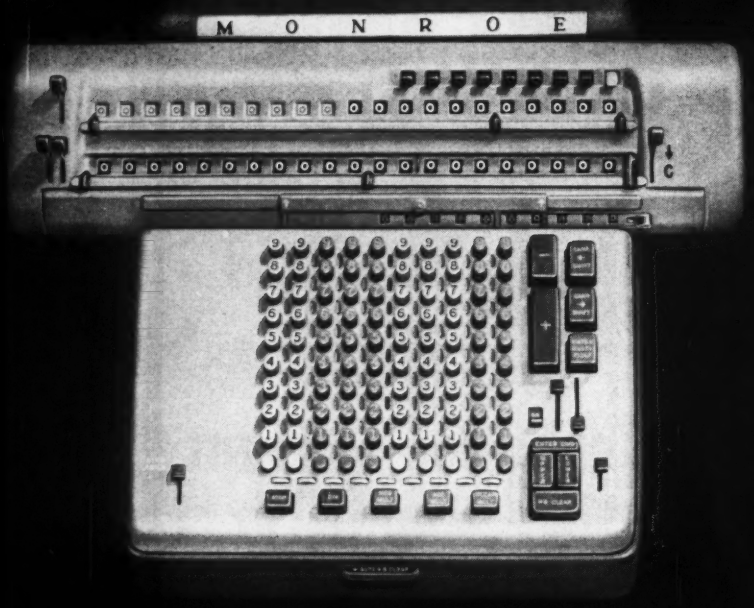

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The Lonely Art of Decision Making

A unique brand of courage and intelligence is required of the man who succeeds at the crucial job of decision making, says Clarence B. Randall, former head of Inland Steel Company and adviser to Presidents.

THERE is an old story about the first P. D. Armour of Chicago that I have always liked, without caring particularly whether it is true or not. It goes like this.

In the early days of Armour and Company, Mr. Armour had an admirable plan for training his second and third echelons in the techniques of management. He organized about a dozen men into a junior board of directors and, from time to time, submitted important company problems to this group.

One day, after a particularly lively discussion, a young man said, "I move that we go ahead with this." There was a second for the motion, and then Mr. Armour—who was, of course, chairing the meeting—called for a vote. Every man said "aye."

Whereupon, Mr. Armour said, "The motion is lost," and went on to the next order of business.

And he was so right. It was he who had to make the decision, and there were times when the depth of his experience and the breadth of his knowledge were more important than the initial impressions of men considering the matter for the first time.

Decision making is a lonely business, and the greater the degree of responsibility, the more intense the loneliness. It is human to wish to share the risk of error and to feel the comforting strength of outside support, like the flying buttresses along the wall of a medieval cathedral. But the strong man, the one who gives free enterprise its vitality, is the man who weighs thoughtfully the entire range of available opinion and then determines policy by relying solely on his own judgment.

At every level of authority, there must be such a man. In football, play begins when the signal is given and the ball is snapped. In production, the process starts when the effort of all concerned is thrown into action by the will of one man. It is important that this man be right, but sometimes it is more important that he act than that he achieve the absolute zenith of wisdom. An end run might have been safer, but if a pass scores the touchdown, who cares?

It is this infinite multiplicity of decisions made daily by individuals throughout American industry that gives our system of private initiative and responsibility its tremendous drive and distinguishes it from the monolithic, authoritarian structure of industry in Communist countries. A man who decides daily, grows daily. He makes mistakes, but, because under our system authority is diffused, his errors are offset by the wise choices of others in similar capacities, and gradually the best practice evolves. The Soviets' mistakes must be locked in with frightful rigidity.

Yet there are many men who, by temperament, are totally unsuited to performing this vital function in industry. They may be fine citizens,

The Key Decisions

Here is how members of the Dun's Review Presidents' Panel rank in importance the types of major decisions they must make:

- ✓ **Corporate policy**
- ✓ **Selection of key executives**
- ✓ **Organizational structure**
- ✓ **Diversification and plant expansion**
- ✓ **Major capital expenditures**

The hardest decisions, these top-company presidents say, are not always the most crucial. Although nearly half the 111 presidents surveyed rate major corporate policy as the most important, the decisions that three-fourths of them find most difficult are those affecting people. Replacing a key executive, discharging an old employee, demoting a man who has proved inadequate for his job, overruling a man when his feelings will be hurt—these are the decisions the presidents find most trying.

wise in counsel and courageous in carrying out a policy which another has determined, but they simply cannot themselves make a decision. I have known men who become almost physically ill when, after exhausting every known device for postponement, they are at last trapped in a position where they, and they alone, must say a clear "yes" or "no."

Such men are a menace in business. They can paralyze the progress of a fine institution. When discovered, they must be removed at whatever cost in human pain. Only major surgery will do—even if the president has to fire his best friend.

You can't pick the winners

But how can management know in advance which employees and officers have this quality?

Where promotion is involved, the man's record in a lesser area of responsibility should afford a guide. But when he is young and untried, who can guess with certainty whether at mature years he will possess this elusive characteristic?

Take, for example, this year's college graduate. Interviewers swarm over the campuses these days, combing the junior and senior classes for likely prospects. They check every phase of the candidate's record and try to fit the range of his proved abilities into the pattern of vacancies in the company. But they cannot possibly determine with assurance whether or not the young man with a high IQ can also answer a crisp "yes" or "no" under pressure. The modern trained psychologist can help the interviewer in measuring the candidate's intelligence and capacity for growth, but I have never known a psychologist who could by testing determine with certainty whether or not the man will be able to make decisions.

For myself, in reflecting upon this phenomenon over a long business experience, I have come to the conclusion that a man's capacity for decision making is determined at birth. You either have it or you don't, and no amount of training can give it to you if fate has chosen to pass you by in this respect. Experience will sharpen the faculty, but it cannot provide what is not there.

Some men, unhappily, think that they have it when they don't. They shoot from the hip, confusing action with wisdom. Actually, the policy which they announce is not a considered judgment in any sense, but the result of a subconscious tossing of a coin. Such men are almost as dangerous as those who cannot make up their minds at all.

What marks a decision maker?

What, then, are the outward attributes displayed by the man who comes to be regarded by his associates as one who may be highly trusted with the authority to say "yes" or "no"?

First of all, he has a perceptive instinct for recognizing that a problem exists and an ability to articulate which permits him to frame the issue with clarity. In industry, many a crisis goes unsolved because no one senses that it is there until it is too late to take appropriate action. A good decider must, therefore, have a nose like a bird dog for smelling out the tough situations while there is still time to do something about them. When he goes on point, he must be able to flush the right bird.

Here, breadth of education and experience are extremely important. It is the specialist who is at a disadvantage. As he climbs the steps of management to higher levels of authority, he encounters problems for which he is unprepared. The man who thinks only as a mechanical engineer might miss the fact that his conduct is laying the foundation for a breach of contract suit, and an accountant might not be aware of good practice in industrial relations. It is the man who, by education or broad reading, has opened his mind to the widest range of intellectual experience who has the best chance of recognizing unfamiliar problems before stepping into them.

Secondly, he has the ability to saturate himself with pertinent data about a subject before permitting his mind to come into focus, coupled with a sense of urgency that causes him to do this as rapidly as possible. He must know as much as he can before he acts and yet not delay the activities of others who cannot go ahead until he moves. He must display a nice balance between the desire to know more and the necessity for action.

Never look back

In the third place, he must have the courage not to look back once his decision is made. There must be no aftermath of doubt once the commitment is made, or the morale of the whole organization will suffer.

Next in order of weakness to the man who cannot make up his mind at all, is the man who wants to reverse

Who Helps the President Decide?

Few chief executives wrestle with their decisions in complete solitude. In fact, three-fourths of the industrial leaders comprising the DUN'S REVIEW Presidents' Panel reported that they make use of one or more internal committees in reaching decisions. Most often these presidents are aided by a formal executive committee. Others depend on planning, policy, finance, research, and operating committees to help them decide on everything from capital expenditures to personnel problems.

In some cases, the presidents say, the committees actually make the decisions, while in others the committee only provides information and recommendations. One president reports that he does not make any decisions, but merely confirms those arrived at by his subordinates.

Nevertheless, hardly less than a fourth of the Panel have a very high opinion of committee decisions, although they find groups are helpful in gathering information. Others think management-by-committee is a necessary evil, assuring effective implementation of final decisions.

Those company presidents who scorn committee participation say they consult with subordinates concerned with the problem at hand, but that they take full responsibility for the decisions.

THE AUTHOR ● Clarence B. Randall became the top decision maker at Inland Steel Company in 1949, moved from president to chairman of the board in 1953, and retired in 1956. Throughout his business career, Mr. Randall has concerned himself not only with the techniques of management, but with a furtherance of free enterprise. He has written a number of books and articles on the social and political aspects of the American economy and has been honored frequently for his contributions to industry and the community. Mr. Randall has served the Federal Government in several capacities and is now a special assistant to the President on foreign economic affairs.

his decision almost as soon as it is made. Such men become organization catastrophes when chance brings them to positions of responsibility.

But the man who is crisp and competent in making decisions often has his own occupational disease—he does too much of it. It is human nature to overdo that which we do well, and in every organization there are those who do their own job admirably, but who, nevertheless, obstruct team play and retard the growth of others by hanging on to responsibility.

The difficulty of delegating

The proper delegation of authority is the subtlest of the management arts. It is a precision tool, one that requires clarity of thought and strong self-discipline. The junior executive must be told exactly how far he may go in making decisions, and then he must be let alone. The ability to keep hands off does not come easily to the dynamic type of "do it yourself if you want it done well" executive.

What comes particularly hard to the top man is to watch his next-in-line embark on a course of action of which he disapproves and still make up his mind to support him. Yet that must happen at times. So long as he stays within the area where reasonable men may differ, the junior manager must be given his head, or he will work in a constant state of frustration. Only when he completely oversteps the bounds of prudence, may he be overruled. If he has made a decision of marginal wisdom, he will find it out and be the better man for it.

Strong, dynamic men with their intense preoccupation with the affair of the moment and their blind spot for the future leave a bad hole in the organization when the hazards of life remove them from an active role.

I have said that decision making is a lonely business. By this I mean that deep down inside the man's mind and heart the controlling impulse of his will cannot, and must not, be shared. That must be his, and his alone, or he has not made a decision. But all of the preparatory steps that deal with consideration of the problem must be shared to the widest extent that time and circumstance permit. Knowledge makes for wisdom, and light shining upon a subject from all sides promotes sharpness of vision.

Controlling the committee

This is the purpose of the executive conference. Industry cannot be governed by a town meeting in which, when the last compromise has been accepted, the lowest common denominator of consensus is so colorless as to be all but worthless. Committee pronouncements are seldom positive and their decisions seldom significant. The conference must have at the head of the table the man who is solely responsible for the decision, and the meeting must have no other purpose than to increase his knowledge and enlarge his understanding of the problem. Action should follow the exercise of his will, not that of the group.

To conduct a conference well and in such a manner that every phase of the matter is adequately explored before a decision is made requires a special skill that does not always reside in men who are themselves qualified to make decisions.

The time element is most important. The conference must be kept under control all the way through, or valuable time of busy men will be wasted. The chairman must at the outset frame the issue. He must state with exactitude what it is that is proposed and must bring up short any member who deviates from that subject. He must restrain the garrulous, prompt the diffident, and make sure that every man is heard. He should himself talk only enough to promote discussion. If one individual is to make the initial presentation, he should be told in advance how much time he may have. But there should be no supernumeraries. Any man worthy of being at the conference table merits being heard. Finally, when enough has been said, the conference must be terminated by the chairman.

Decision by consensus

When equals meet to interchange views, an entirely different situation is presented. A typical case is a meeting of the board of directors of a corporation. There, no individual has the power to decide because the authority has been expressly granted to the group as a whole, and no member may divest himself of his responsibility. The function of the chairman is not to decide but to lead. He proposes, but he does not insist. He persuades if he can, but his main purpose must be to stimulate full discussion and arrive at a clear consensus, even though that involves submerging his own will in that of the group.

Such, too, are the processes of government in a republic. Under our system of checks and balances, the power to decide is necessarily diffused. This is our glory in terms of the preservation of our freedoms and our limitation when dealing with authoritarian powers. Business men who criticize the "red tape" in government would do well to reflect on this important distinction.

But in terms of our economy, the strength of our nation rests upon preserving forever and raising to its highest development the capacity of each citizen to make individual choices and to arrive at individual decisions for which he assumes full responsibility.

END

Formulas for Decision

When the moment arrives for the company president to sit down alone and thrash out a decision, he may use any number of special aids, approaches, or devices to help organize his thoughts, and—most importantly—to marshal the facts.

What are these personal and specific aids to decision making that top executives employ? Most company presidents, judging from a DUN'S REVIEW survey, find it helpful to get the facts down on paper, along with a list of the advantages and disadvantages of the alternatives, and then wait for the decision to emerge. Some find charts and visual devices useful at this stage. One president attempts to assign numerical values to each of the major factors and then pick the combination with the largest numerical weight. Another president works from prepared outlines and data.

Many of the decision makers, however, say they simply rely on past experience and "common sense," and several frankly admit they have no formula for arriving at a decision, but wish they could find one.

CONTRIBUTIONS *get top management consideration by the donations committee of the Chase Manhattan Bank Foundation at regular monthly meetings. Headed by Vice President David Rockefeller (center), the group includes (left to right) Vice Presidents Crawford Wheeler, Charles A. Agemian, and Harold F. Moeller; Board Chairman John J. McCloy; President George Champion; Vice Presidents John D. Wilson and Mortimer J. Palmer; and Committee Secretary Lester J. Brooks.*

Making Better Use of Your Charity Dollars

In today's welter of competing appeals, hit-or-miss giving just doesn't make sense. Here's how leading companies are solving the problem of picking the right charities and apportioning their contributions.

IN TEN short postwar years, corporations have become the staunchest supporters of the nation's charities. Corporate gifts, exclusive of employee contributions, account for roughly 40 per cent of the totals received by United Funds and Community Chests. Despite the recession, the nation's corporations last year increased their charitable contributions to about $525 million, or $5 million over the 1957 total, according to estimates by the American Association of Fund-Raising Counsel. In 1948, the U.S. Treasury Department reports, corporate giving totaled only $239 million.

Not only are the numbers of corporate dollars given to charity increasing, but they represent a growing share of business profits. Ten years ago, corporations gave away 0.69 per cent of after-tax earnings. At last Treasury Department reckoning, for the 1957 fiscal year, corporate giving accounted for 0.89 per cent of profits after taxes. These figures, incidentally, do not include the additional donations of general and administrative overhead.

Business concerns have replaced prosperous individuals as the major support of charitable organizations. More companies are becoming aware that some degree of charitable obligation goes with the wealth they hold and control, especially since income taxes and death duties have been effectively eliminating wealthy individual donors. If business concerns were not aware of this responsibility at first, it has become clear that the community expects them to shoulder it, for the number of requests for contributions and their individual size grow year by year.

Corporate philanthropy has become one of the many functions of business. It is not only here to stay, but its demands can be expected to increase with the growth of the population and the requirements such growth will make on the nation's welfare and educational institutions.

But despite its growing importance, in many companies today corporate philanthropy still is viewed as a somewhat annoying obligation, and—particularly in small companies—is usually handled in a rather haphazard manner. Listen to Kenneth G. Patrick, vice president of the Council for Financial Aid to Education, and former manager of education relations

and corporate support for General Electric Company:

"Most corporate dollars are given away as a reaction to pressure. The company wouldn't do it voluntarily. It's pushed by a customer, a director, or someone making noise."

Patrick says the contributions committees of many companies are composed of executives who have no time to be competent in the philanthropic function. "They do a lot of things that are pretty bad," Patrick observes, "and nobody knows what's going on."

Haphazard distribution of charity dollars can lead to many abuses. Phony charities, for example, which thrive on such off-hand corporate giving, siphon off the bulk of the funds collected as "administrative expenses."

How much overhead?

It's hard to determine the point at which promotional and administrative costs become excessive. Some companies automatically rule out a charitable agency whose expenses climb above a certain percentage—e.g., 15 per cent of the agency's income. However, many persons who specialize in analyzing charities insist an arbitrary cut-off point is invalid. Says one expert: "It's like saying any company whose stock returns less than a 4 per cent dividend isn't worth the price." Each philanthropic organization, these specialists say, must be individually analyzed.

Another error that can result from careless corporate giving is distribution of charity to outdated health or welfare organizations or to organizations whose requirements are nowhere near what the donor is led to believe. Walter M. Upchurch, Jr., secretary of the Shell Companies Foundation, Inc., says:

"Poor philanthropy is almost as bad as no philanthropy. It encourages gyps, outdated organizations, slick fund raisers, or groups that get more than a fair share of available charity money."

Careful philanthropy by a corporation can not only achieve charitable goals, but can directly and indirectly aid the company itself. Aid to education is a good example.

Today, education is the recipient of a large and growing percentage of corporate gifts. The National Industrial Conference Board, in a study of contributions by 180 large companies, found that in one recent year 31.3 per cent of their total charity dollars went to support educational institutions. This percentage was topped only by the 40.1 per cent slice that went to social welfare agencies.

Setting up a program

An initial step toward a planned program of giving is to appoint someone to handle it. In a large corporation, this job might require the full-time attention of a specially trained executive who reports periodically to a contributions committee made up of top officers of the company. In a smaller organization, the president himself might take on the entire responsibility. In both cases, the operation is pretty much the same, varying only in degree.

Five other major steps necessary to establish a charity program are:

- Study of the current status of company giving.
- Development of policies for giving and determination of areas of support.
- Determination of whether or not to establish a foundation.
- Establishment of a system of financial controls and follow-up.
- Investigation of contribution problems.

The key step here is to outline a policy and establish goals. A detailed written policy makes for a consistent pattern of giving. It also reduces contributions to agencies whose functions overlap and to organizations with conflicting purposes.

But perhaps the most important function of a clearly defined program, at least as far as its chief administrator is concerned, is that it enables him to say "no" with grace and conviction to the overflow of requests the company can't fill.

As Kenneth Patrick puts it, "The only good excuse for saying 'no' is in terms of a balanced, constructive program."

Where the money goes

The field of philanthropy can be broken down into five broad areas: (1) Community Chests, United Funds, and other community appeals; (2) voluntary welfare agencies, such as the American National Red Cross, hospitals, cultural and community activities (e.g. libraries, museums, parks), and "American way" or economic organizations; (3) education and research; (4) religious organizations; and (5) other miscellaneous activities.

Some companies distribute their charity dollars throughout the various philanthropic areas. Others restrict themselves to a single area.

continued on next page

Questions to Check Before Giving

To appraise an appeal, you should have the answers to these questions:

- Does the agency making the request have an active and responsible governing body, which serves without compensation, holds regular meetings, and has effective administrative control?
- Does it have a legitimate purpose that avoids unnecessary duplication of the work of other sound organizations?
- Is its program management reasonably efficient, and are its material and personnel resources adequate?
- Is there evidence of consultation and cooperation with established agencies in the same or related fields?
- Is it ethical in its methods of publicity, promotion, and solicitation of funds? Are its fund-raising methods sound and its costs reasonable?
- Do its officers prepare a detailed annual budget?
- What is the relative importance of the appeal?
- Is the project best served by private giving, or should it be financed by public funds?
- Will the project be so popular or well-publicized that it will be adequately supported by the public?
- Will the appeal contribute significantly to solving the problem?
- Does the agency have broad influence and render services that are representative and public in character?

Once a policy is established, a company must then decide how much it's going to spend. No single factor determines the size of a company's total philanthropic budget or the size of any single contribution. The most important variables are previous contributions, the sum of current recommendations, and the company's earnings before taxes.

The Internal Revenue Code allows a deduction from taxable corporate income of up to 5 per cent for gifts and contributions. But most companies' contributions fall well below this percentage. Another factor bearing on the contributions budget is the attitude of stockholders. For a long time, managements feared stockholders' suits over contributions that didn't have crystal-clear benefits to the companies, but court tests have lessened this worry.

Budgeting for charity

Basically, there are two approaches to determining the size of a contributions budget. The more common approach is to build the budget from the bottom up by adding the requests proposed by various units of the company, and adjusting the total to what the company can afford. Another method is to establish an over-all amount and then allocate various sums to areas of support.

One of the problems in budgeting for charity is that the demands of the charities usually run counter to the trend of profits. In a recession year, for instance, individual contributions to charity decline, and philanthropic organizations step up the pressure on business givers. But during this same period, business profits are generally shrinking, and so some companies find it necessary to reduce their contributions.

One way in which a growing number of corporations are attempting to even out such fluctuations in giving is by setting up charitable foundations. Best estimates place the number of corporation-supported foundations at about 1,500. Their purposes range from that of the huge U.S. Steel Foundation, which handles a wide variety of contributions for that corporation (this year it will give $2.3 million in aid to education alone), to the Bulova Foundation, which devotes most of the watch company's donations to training handicapped veterans in watchmaking and repair. Company contributions to a charitable foundation are tax deductible, as is the income of the foundation.

Charitable foundations need not involve large sums to be effective. The Columbia Broadcasting System's CBS Foundation, for example, contributed $2,500 for books for a New York University browsing room to be built as a memorial to one of the school's deans who conducted a weekly educational television show on CBS. And the Shell Companies Foundation last year began a program under which 50 colleges each will receive a $1,500 donation aimed mainly at helping faculty members further their professional development. Another company gives $25,000 a year to libraries of small colleges to help the schools gain academic accreditation.

Many companies make it a practice to donate sums to community chests in areas where they have plants or offices. This permits better distribution of funds and relieves the companies of the burden of deciding the merits of small organizations—some companies get several thousand requests each year from small groups.

Investigate before investing

One of the major problems facing companies with charitable funds to distribute is the evaluation of requests falling within the framework of their budget and program. The key rule to remember here is simply to investigate before investing. The charitable organization itself should be willing to supply detailed information about itself, including its fund raising and administrative costs, its total income and the sources of that income, and the amount of money it spends directly in behalf of its cause. However, information about the agency is easily accessible from outside sources (see box). Also, companies usually are willing to exchange information on a specific charity.

It's best to keep a permanent file on each agency requesting a contribution, with reports, memos of phone calls and interviews, newspaper clippings, the source of the original request, and contributors within the company. The file also should include a record of the company's donations to the charity. When all the pertinent information is pulled together, it can be summarized in a brief report to the company's contributions committee or whoever has the responsibility for passing on recommendations.

A company can extend its charitable reach through investigation, careful analysis of the facts, and an organized program of giving. Automatically and without increasing its philanthropic budget, the company can increase its number of positive responses to requests for charity, distribute its donations in places where they will do the most good, improve its public relations, and, in general, better meet its social responsibilities.

—ALBERT C. LASHER

Where to Check a Charity's References

Here are some sources of information to help determine the merits as well as the purposes of a charitable appeal:

NATIONAL BETTER BUSINESS BUREAU
Division of Solicitations
405 Lexington Avenue
New York 17, N.Y.

NATIONAL BUDGET COMMITTEE
345 East 46th Street
New York 17, N.Y.
This organization is jointly sponsored by United Community Funds and Councils and the National Social Welfare Assembly

NATIONAL INFORMATION BUREAU
205 East 42nd Street
New York 17, N.Y.
Reports are available to members only. They include facts and a conclusion as to whether or not the agency meets the Bureau's standards.

COUNCIL FOR FINANCIAL AID TO EDUCATION
6 East 45th Street
New York 17, N.Y.

NATIONAL CATHOLIC WELFARE CONFERENCE
1312 Massachusetts Avenue, N.W.
Washington 5, D.C.

COUNCIL OF JEWISH FEDERATIONS AND WELFARE FUNDS, INC.
165 West 42nd Street
New York 36, N.Y.

NATIONAL COUNCIL OF THE CHURCHES OF CHRIST IN THE U.S.A.
297 Fourth Avenue
New York 10, N.Y.

And, in your own community, local better business bureaus, chambers of commerce, and united community funds and councils.

How Safe Are Your Foreign Investments?

Oil operations like these at Lake Maracaibo, Venezuela, make up a big share of U.S. foreign investments.

Tax tangles, shaky economic conditions, or political power plays can make a fiasco out of a hopeful overseas venture. Here's how to tell the booby traps from the real profit opportunities.

EXPERIENCE, it's been said, is what you get when you are looking for something else. And experience—in the form of hazards and headaches seldom, if ever encountered at home—is exactly what plenty of American business men get when they go looking for profitable investments abroad.

But although the risks are real, the successes of direct investment overseas outnumber the disasters. And the profit payoff is usually higher than for a similar operation here at home. There are many areas of the world—Canada, the United Kingdom, Australia, New Zealand, South Africa, and Switzerland, to name a few—where hazardous experiences are rarely encountered.

Foreign investments represent a growing share of corporate income. Today about 15 per cent of all U.S. corporate profits after taxes are produced by foreign operations. In 1957, earnings from overseas investments totaled $3.3 billion, with about $1 billion being retained abroad. This represented about a 12 per cent return on an estimated $25.3 billion investment.

The profit return varies, of course, among industries and companies. But, on the whole, investing abroad is good business, notwithstanding its peculiar hazards. In manufacturing alone, U.S. foreign direct investments in 1957 produced an estimated return of 11.4 per cent on a $7.5 billion investment. Domestic manufacturing earnings on the whole averaged 10.9 per cent. And in many individual cases, the return on foreign operations is higher than on domestic. Even the local business investors in some countries figure on getting their capital back in a few years.

But there is no denying the fact that in order to tap this important profit source, the foreign investor must assume certain special risks.

Property may be "intervened" (taken over) by national or provincial governments, as happened not too long ago to various properties of the American and Foreign Power Company in Argentina. Investments may be nationalized, as were oil and tin holdings in Bolivia. The government may even expropriate investments and hold the local managers for ransom, as in Communist China. Tax increases—even retroactive, as in the recent case of Venezuela—may reduce the income from, and hence the value of, an investment. Utilities may be gradually strangled by prohibitions against raising their tariffs to keep up with costs. Exchange controls may prevent remittance of earnings or repatriation of capital. Local politicians and dictators may gouge the "rich Americans."

And these are only a few of the dangers to the dollar invested overseas. Although the U.S. Government since the war has been actively promoting U.S. private direct investment abroad, it is well aware of these special risks. Many of them are discreetly mentioned in various Department of Commerce publications.

The risk of arbitrary government actions—as in the fields of taxation, import quotas, exchange controls, and

CHECKLIST for Novice Foreign Investors

If you are considering your first overseas investment venture, here are some suggestions well worth checking:

- √ Make sure you have picked the right country. A preliminary check of the market potentials of the country in which you plan to establish a branch plant and of the countries it serves can save you the expense of a more detailed inquiry, if the findings are unfavorable.
- √ Consult the Department of Commerce early in your survey, either at the nearest district office or in Washington. It can supply specific facts and figures on foreign markets, laws, financial controls, labor legislation and practices; special restrictions on particular types of operations; import and export duties and controls; availability of raw materials and power; local customs and attitudes; and American companies operating in the various countries.
- √ Check the "country desk" of the U. S. State Department, and also check the investment guarantees the International Cooperation Administration can offer.
- √ Examine the relative merits of establishing your own factory, licensing, or joining forces with an existing local company.
- √ Determine the effect of U. S. taxes on the investment—e.g., you may benefit by forming a Western Hemisphere Trade Corporation.
- √ Find out if your products have already been patented abroad by someone else.
- √ Watch out for the antitrust aspects.
- √ Consider all the personnel problems. Some countries limit the number of foreign workers. Have you personnel to spare for the foreign plant? What about living conditions? Are your personnel and their families trained and oriented to operate abroad?
- √ Visit the country and talk to the people in the U.S. embassy and consulates, the local American chambers of commerce, and individual American business men.
- √ Make sure you know what capital you'll need to get the business started and keep it rolling. It may be better to make licensing pacts and let the licensees put up the money and the management.
- √ Look into the possibilities for getting financing help from U.S. Government agencies like the Export-Import Bank or the country's development bank.
- √ Check the Commerce Department's lists of overseas business men who are looking for partners or offering investment opportunities.
- √ Talk with the foreign department of your bank.
- √ Get adequate credit reports on any foreign companies with which you are contemplating business dealings. The Commerce Department offers *World Trade Directory Reports* at a nominal fee, but more thorough reports may be obtained from DUN & BRADSTREET.

so on—is always present, especially in the less developed countries. Investments of big foreign companies are often special victims.

For a horrible example of what government price controls and accompanying export restrictions can do to the profits of a foreign investor, consider what is happening to oil investments in Peru. Under Peruvian law, private crude-oil producers may export petroleum only to the extent that local production exceeds local demand. The companies must fill local demand for gasoline and fuel oils at government-controlled prices.

This control was introduced during World War II, and the prices have not been changed for a number of years despite the fact that the cost of living has risen by 30 per cent and oil-industry wages by even more.

The retail sales tax on gasoline has been increased, but this, of course, is no help to the oil companies. Even so, from the viewpoint of American investors who necessarily think in terms of dollars, depreciation of the Peruvian sol has resulted in a shrinkage of the dollar value of all gasoline sold in Peru. As a result, especially under the stimulus of artificially low local prices, petroleum demand in Peru has expanded rapidly in the last few years, while the volume of crude oil available for export has declined.

The damaging effect these policies have had on the operation of one American company was described in the annual report of the Standard Oil Company (New Jersey) for 1958. Despite the fact that its Peruvian subsidiary, the International Petroleum Company, drilled 72 wells during the year and produced an average of 38,000 barrels daily, the lack of profits forced it to shut down all drilling operations by the year-end, pending a solution of the price problem.

In dictatorships, special risks are to be expected. These may be of a non-legal and informal nature involving influence payoffs, "business" transactions with politicians, and the like. Proof of such goings-on is hard to come by, and the U.S. Government, although well aware of many such instances, is unable to disclose the details to inquiring investors.

It has been reported, for example, that in a certain dictatorship in Latin America, an American brewery came in and did such a good job that its older, native competitor was losing all its business. The dictator acquired this competitor and then approached the American company with a merger proposition. The U.S. company turned thumbs down, whereupon it discovered that its customers, after visits from the local police, would no longer buy its beer. The result: the U.S. company bought out the brewery.

Dealing under the table

Graft is encountered daily in business dealings in some areas. In one case, an American lumber company, having been granted a concession, imported necessary equipment from the United States only to learn that it could not begin operations without an additional certificate signed by the country's president. But it seemed the president was always "unavailable." Finally, the investor was advised to hire the law firm headed by the Minister of Finance. After paying a substantial "legal fee," the company obtained the needed document.

Investments abroad also are endangered by local Communists, who join forces at every opportunity with other radical groups and discontented nationalists. Yugoslavia took over all foreign investments when it went Communist, but it compensated the

owners. Investments seized by the Communist governments of Poland, Rumania, and Hungary have never been paid for. American oil properties in Austria, which were taken over successively by the Nazis, Russians, and, finally, the Austrian government, are now in process of settlement.

In nations where inflation is allowed to run more or less unchecked, the threat to foreign investments stems from the difficulty of remitting profits. Brazil, for instance, has had to be bailed out several times since the war by the Export-Import Bank in order to clear up its accumulated current accounts. When inflation gets the upper hand, the country's goods tend to be priced out of the markets. Exports become difficult, while imports continue to flow in unless kept out by trade and exchange controls.

Public utilities are especially vulnerable to inflation because they cannot, without government consent, raise their rates to compensate for increased local costs, and their importation of equipment and supplies, priced in dollars, is reduced below needs for lack of foreign exchange.

Limiting the field

Another barrier to new manufacturing investment projects abroad is the so-called "doctrine of saturation of industry," under which the local government may declare a particular field to be "saturated" when in its judgment the industry seems to be in danger of becoming overexpanded.

This doctrine, in one form or another, has been encountered by investors in various Latin American countries. Brazil prevents investments in the form of machinery, used equipment, and goods if such goods are manufactured in Brazil or can be supplied by Brazilian manufacturers "in due time." Because of this doctrine, a furor was created when the American Can Company tried to set up manufacturing operations in Brazil when the Continental Can Company already had plants there.

Red tape can snarl up investments in many underdeveloped countries, particularly in the Middle East and Africa. A potential investor may invest thousands of dollars in blueprints and visits of executives to the country and still, after months of waiting, be frustrated in the effort to obtain official approval for the project. Ethiopia is a prime example of this type of difficulty.

Foreign exchange problems

Exchange troubles also can hold up an overseas operation. A case in point is Turkey, where American assembly facilities have been idled for months on end because of the unavailability of foreign exchange to pay for imports of parts and materials.

Local labor laws and requirements are more a hazard of doing business than a direct threat to investments, although they can be both. In Cuba, for instance, the attitude of labor is a major obstacle to development.

Under the Castro government, the "intervention" system which made so much trouble for business men in previous administrations has been revived. Railways and public utilities have been conspicuous targets of this system in Cuba, but they provide by no means the only examples. In the postwar years 1945–52 inclusive, no less than 90 businesses were taken over by the government. Intervention results from labor's failure to obtain its demands. Usually, when management gives in, the government returns the property—but not always.

Finding adequate capital to launch branch plants and keep them going is a major problem facing the investor who is anxious to develop manufacturing operations in a number of countries within a relatively short time. Linked with this is the additional problem of providing the plants with the necessary skilled management.

Working with licensees

The problems may be avoided, however, by resorting to licensing arrangements. Philco International Corp. is a good example of a company making use of this technique to meet these two essential needs. Philco has eighteen licensing agreements in fifteen foreign countries, as well as manufacturing subsidiaries in four countries. And in Brazil, it has both a manufacturing subsidiary for its electronics line and a licensing arrangement covering appliances.

According to Philco International's president, Harvey Williams, when a manufactured product can be made from precise specifications, licensing relieves the parent company of the whole responsibility for raising or providing the large amounts of capital which the organization of new foreign subsidiaries would require. The licensee also shoulders the responsibility for recruiting and training competent management. Says Williams:

> Some American companies provide licensees with little more than the blueprints, but we select licensees who are very substantial, who have management competency and financial resources. What we do for our licensees is much the same as what a management engineering firm does for its clients. Our licensing subsidiary, Philco Corp., S.A., often sends specialists to work with a licensee for a while on quality control, production methods, sales promotion, or financial programming. The licensing subsidiary receives technical assistance fees.

The investing company may protect itself to a limited extent against some of the risks mentioned above through International Cooperation Administration guarantees. But many of the hazards are uninsurable. Some may be compensated for in part by higher profit margins or obviated by taking local capital into partnership or by licensing arrangements. The prudent investor will be careful not to put too many eggs in one basket.

—HERBERT M. BRATTER

How U.S. Direct Foreign Investments Are Growing

The average annual increase in U.S. direct investments abroad, including reinvestment of earnings, has been growing with the need for raw materials, stiffer competition, increasing foreign trade barriers, and rising U.S. labor costs. In the postwar years from 1946–50, new direct investments averaged $1.14 billion. Until 1955, they averaged about $1.50 billion, but in the next two years they averaged $2.97 billion. Presumably, these figures are unadjusted for the inflation factor.

	Average annual increase (billions of dollars)			
	1946-50	1950-53	1953-55	1955-57
Canada	0.28	0.55	0.62	0.92
Latin America	0.43	0.43	0.29	1.10
Western Europe	0.17	0.22	0.31	0.50
All others	0.26	0.30	0.29	0.45
Total	1.14	1.50	1.51	2.97

A few pioneering companies try a new pay plan for their hourly non-union workers — and find it pays off in better morale.

Blue Collars on Salary

TODAY, as automated production processes and technological advances force the upgrading of the industrial workforce, the ratio of white-collar workers to blue-collar workers is steadily rising. In time—a good long time—the upshot could be that hourly wages will become largely a thing of the past, and everyone, or practically everyone, will be on some kind of salary.

Meanwhile, without waiting for the day of the all-white-collar labor force, some companies have already put their blue collars on straight salary (with overtime as usual). And there seem to be quite a few others who are considering such a move.

Start of a pattern

It's still too early to say that a trend is in the making, but chances are that the few companies that have already adopted the plan are setting a pattern for others to follow. So far, it is the unorganized plants that are pioneering in the field. Where there is a union, says Paul Kaponya, industrial relations director of the Cannon Electric Company of Los Angeles, which has adopted the plan for two non-union divisions, the situation is too highly charged, "emotionally and politically," to permit the flexibility necessary.

One of the first companies to install an everyone-on-salary plan was Gillette Safety Razor in Boston, which took the plunge in the Fall of 1955. In reviewing the company's sick leave program, executives noticed that there was very little difference in absenteeism between production workers, who were docked for the days off, and white-collar workers, who were not. If anything, the office workers had a slightly better record.

In line with a long-term policy of equalizing the benefits and privileges of office and factory personnel, therefore, the company decided to give the production workers full salary status, and by "full salary status" it meant just that.

"Since October 1955," said Paul L. Davis, industrial relations vice president, "all our employees have received full pay when ill. There are no 'gimmicks' and no rewards for not taking advantage of the privilege. Every employee receives sick pay for his entire period of absence, as long as there is a reasonable possibility of his returning to his former job. The duration of this sick pay is up to the discretion of the operating head of the employee's department and the head of the personnel department."

Then, in January 1958, International Business Machines announced that it was adopting the all-salary plan for its approximately 60,000 employees in this country, about one-third of whom had been hourly paid up to that point. Instead of getting only $6 a day for the first three days of absence, the former hourly paid employees would receive full compensation, the difference amounting, on the average, to $14 a day. And if an employee worked overtime one day during the week, he would get time-and-a-half for the overtime hours, even if he had been absent earlier in the week.

A third example

Cannon Electric adopted a similar plan for its Salem, Mass., and Santa Ana, Calif., divisions in January of this year. Each division employs around 500 workers, skilled, semi-skilled, and unskilled, with the semi-skilled and unskilled predominating. Its operations include regular assembly line work.

Cannon had been considering such a plan for a long time—reasoning that if employees are treated like adults they would display an adult sense of responsibility—but it was to some extent encouraged by IBM's example.

Watching the pioneers are a number of other companies that are unwilling to have their names mentioned in this connection until they are ready to make a formal announcement of a decision.

A Midwestern concern with 12,000 employees is now in process of re-examining its entire compensation structure, and it has pretty much made up its mind that it will adopt the salary plan "in about two years." The industry in this case is rather heavily organized, but the company is still non-union.

Looking at the consequences

What of results in the companies that have already adopted the plan?

Executives of all three of the companies mentioned here believe that all-salary status has been a morale booster, and their records show that it has not caused any great increase in absenteeism. Gillette Safety Razor actually experienced a drop after it installed the plan, though it was not large enough to be statistically significant. And at IBM, the absentee rate among former hourly workers is running about as expected—that is, about equal to the rate for non-exempt office workers. Cannon Electric finds that its absenteeism rate—figuring in tardiness as well—is only about half the rate for light manufacturing in general. Moreover, it has discovered that many employees make an extra effort to keep the rate low.

The plan will not work miracles, however, as one company found when it tried to adopt an all-salary policy without giving sufficient consideration to its particular plant problems. In the words of the industrial relations man of a neighboring company, "It just got away from them." That is, absenteeism increased unduly, so much so that the plan had to be hedged around with restrictions. Though the plan has not been formally dropped, the rules now make it very little different from the old hourly-pay system. —ALICE SMITH

A Pennsylvania location brings added profit through unequalled distribution facilities

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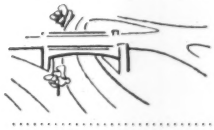

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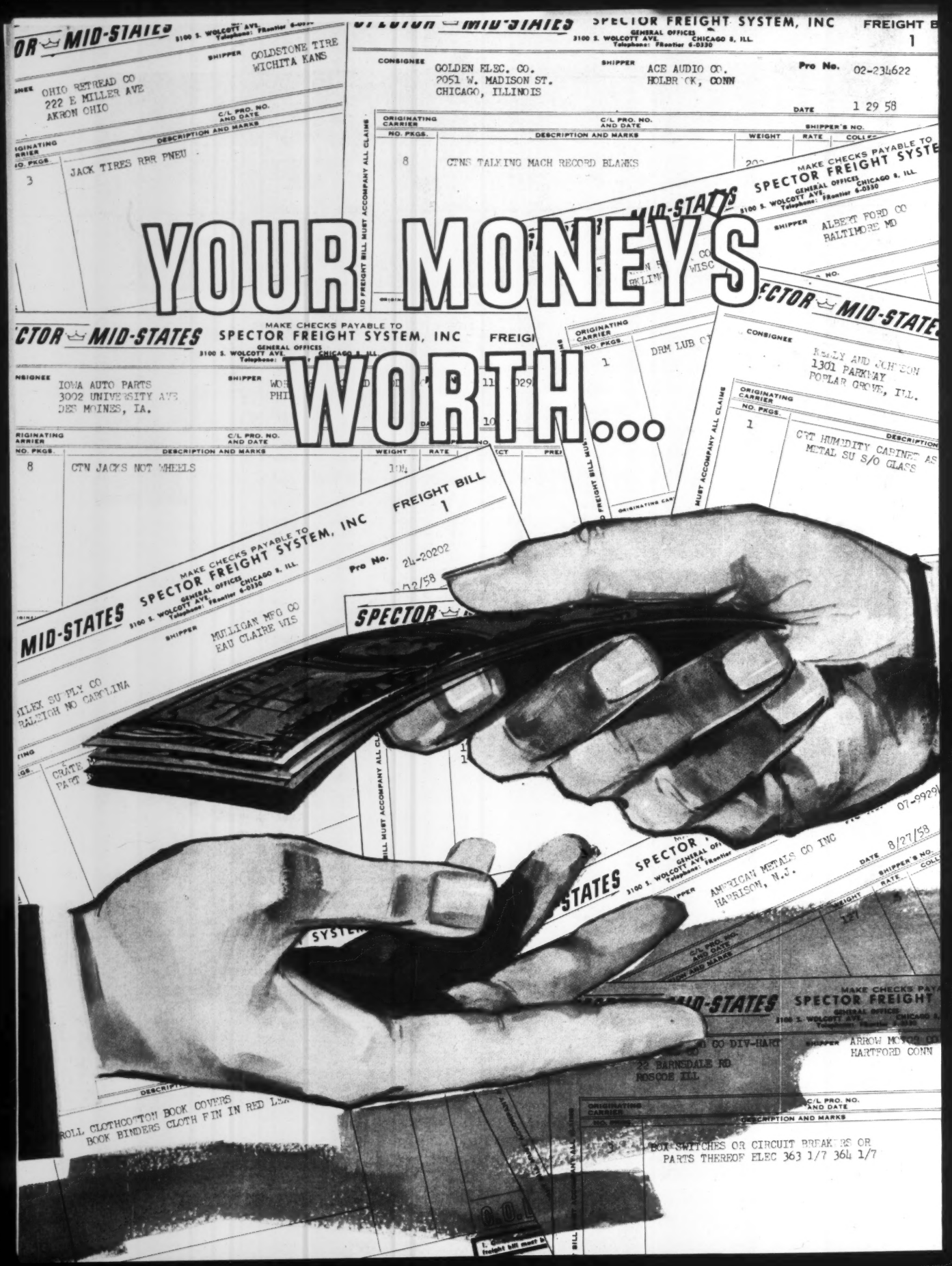
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AKRON OHIO
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NEW TRENDS IN MANAGEMENT are developing as the importance of physical distribution gains increased recognition. Industry is seeking new approaches to integrate all the elements involved in getting materials into the plant and delivering products to the customer's door. A new DUN'S REVIEW survey shows how it's being done.....**starts at right**

EXCITING NEW ACTIVITIES among carriers integrating or coordinating their varied services are matching industry's efforts to integrate all the elements of physical distribution. Piggyback, containerization, and coordinated services are bringing feuding carriers together to provide better service to the shippers...**page 62**

PEEK-A-BOO GONDOLAS, cars that look like tank cars but really carry steel, air-activated bulk cars for flour and other products—these are just a few of the many special rail cars that are cutting costs for shippers. Already about 5 per cent of all cars are tailor-made to speed loading, simplify packaging, and reduce damage claims.....**page 94**

TRAFFIC MANAGEMENT throughout industry is moving up, as top management gives both recognition and responsibility to the men who put the product down at the point of payoff. A new DUN'S REVIEW survey of 211 traffic executives highlights what is now being done to stretch the transportation dollar and to smooth the flow of goods.....**page 102**

NEW MATERIALS HANDLING TECHNIQUES, integrated with the entire shipping process, are chalking up important savings in physical distribution costs. Case histories demonstrate in detail what can be done to make goods flow in a fast-moving, profit-producing stream and to achieve shortcuts in shipping.....**page 122**

PRIVATE TRUCKING OPERATIONS are enabling many shippers to get an important edge on the competition. But there are pitfalls as well as promises for the unwary operator in this fast-growing segment of industrial transportation. Also, the opening up of toll roads to new truck trains holds promise for a new era in trucking.....**page 138**

Special Report to Management

INTEGRATING YOUR

Fast-moving developments in transportation are bringing new profit opportunities for management. Key to the payoff: integrating all the activities involved in getting goods to market. This Special Report to Management pinpoints

THE TASK of transporting products and materials will become increasingly difficult in the decade ahead, as both industry and the population spread steadily outward from metropolitan areas and more people have more money to spend on consumer goods.

The immensity of the job is pointed up by America's projected population for 1965—193 million. This alone spells about a 21 per cent rise in the demand for transportation in the next five years. In addition, the number of ton-miles needed per capita is expected to rise 12 per cent and reach more than 9,000 by 1965.

All of this means that management will be hard pressed to come up with new ideas to hold down the cost of physical distribution in order to remain competitive. Old methods have proved inadequate in the past, and in the coming period of heavier demand, the need for fresh approaches will be imperative.

Another reason for the growing cost-consciousness is that carrier charges are continuing to climb. Since 1946, authorized rail rates have increased twice as fast as the cost of living. This problem is even more critical for most small companies, which must pay authorized rates instead of negotiating for commodity (volume) rates like the bigger concerns. Since 1948, truckload rates have risen 58 per cent, compared with 80 per cent for small shipments.

Some of the impetus for improving transportation also is stemming from management's increased interest in inventory control. Companies in various industries are attempting to keep inventories at minimum levels by letting someone else carry the stock. Manufacturers, striving to cut production lead times, are demanding ever-tighter delivery schedules of raw materials and components.

Looking at the big picture

Companies increasingly are considering total physical distribution costs as an integrated whole—not merely comparing the freight charges of competing carriers.

This new approach is bringing a boom in piggyback operations, exciting developments in containerization, an upsurge in air freight, and new organizational set-ups in manufacturing companies across the nation.

Says Philip F. Cannon, vice president of Barrington Associates, New York management consultants: "More and more, alert management is recognizing that physical distribution can no longer be looked upon as the illegitimate brother of the manufacturing and marketing divisions—that it deserves more than the marginal interest it often has received as a gray area of divided responsibility. There's a

TRANSPORTATION FOR PROFIT

what is now being done throughout industry to take advantage of new developments in physical distribution. See the listing at the left for the specific areas covered in this Special Report.

PIGGYBACK PROGRESS

SPECIAL RAIL CARS

TRAFFIC MANAGEMENT

HANDLING SHIPMENTS

PRIVATE TRUCKING

good argument for establishing physical distribution as a separate function as a company's distributing area gets larger and the product line becomes more complex. The meaning of distribution is coming to include order handling, finished goods inventory control, warehousing, shipping, loading, and traffic."

In short, companies are fast discovering that it pays to consider the movement of materials all the way from the end of the production line to the customer's door (and sometimes beyond—see page 122) as a single integrated operation.

But this new development of integrated materials management, or physical distribution, shouldn't result in another layer of management between traffic management and top management. A growing number of companies have vice presidents in charge of physical distribution, and it seems likely that many of today's traffic managers eventually will be moved up into similar spots. This will take place, however, only when their companies fully recognize that the tight control of distribution costs is really a top management responsibility cutting across the lines of many separate departments and affecting the basic ability of the company to put a product down in the market at a competitive price.

This new approach is explained this way by Percy Pruett, traffic manager at Phillips & Buttorff Corp., stove and range manufacturer in Nashville, Tenn.: "Packing, receiving, shipping, warehousing, materials handling, traffic, and transportation can no longer be segregated as separate functioning departments. The distribution of products must be integrated under one command for the most expedient, economical, and efficient operation."

A push from EDP

According to some observers, including Vincent Goubeau, vice president of materials at the Radio Corporation of America, the increased use of electronic data processing for order processing, inventory control, and related activities will make an integrated materials management approach virtually imperative.

EDP is most effective when it is employed to break through traditional departmental lines and wipe out the duplication in paperwork that plagues most companies.

Vice President Goubeau points up the specific savings that are possible

This Special Report to Management was prepared under the direction of Senior Editor Thomas Kenny, assisted by Melvin Mandell, Industrial Editor.

from the integrated approach to materials management: "Duplication of effort and record keeping frequently are eliminated when the functions of packaging, materials handling, and warehousing are brought into an integrated operation. One package may insure safe carriage, but the cost of individually handling it, unpacking it, and assigning it to the production line may be prohibitive. The packaging engineer may be completely correct in his approach to the problem, but he may develop an entirely different viewpoint if he is informed of material handling costs. In one of our businesses at RCA, we found considerable duplication of effort in the various steps involved in the materials operation."

The H. J. Heinz Company, Pittsburgh, is currently also profiting from having drawn many related activities into an over-all physical distribution department. Ross E. Jones, vice president for distribution, reports that the integrated approach has not only resulted in important economies but also smoothed the way for an important changeover when the company discontinued its own wholesaling operations and turned the job over to other concerns in the grocery business.

The Heinz distribution division consolidates a variety of activities, including transportation, warehousing, inventory control of finished products, order processing, materials handling, and management of transportation equipment. The latter comprises private planes, rail tank cars, long-haul and delivery trucks, and even salesmen's cars. The division has both policy-making and administrative functions.

The distribution division is provided with sales projections by the marketing division. These are related to the planned inventory goals at branch warehouses and elsewhere. Distribution then places orders with the manufacturing division and works with it to determine when, where, and how much should be produced.

Rewards of integration

General Electric is another company that has recognized the benefits of setting up integrated materials management. This Spring, at the American Management Association's special conference on integrated materials management (the first such conference on the subject), Marc A. de Ferranti, general manager of GE's Distribution Transformer Department, said:

> We realize full well that the accomplishments of the materials management function have a direct bearing on two of the most measurable parts of our business—service to our customers and satisfaction to our shareholders. To meet these two requirements successfully, the materials management function must include these activities: production scheduling, purchasing, inventory control, customer service, warehousing, shipping, and traffic. Even in the decentralized and departmentalized system under which we are presently organized, we find an urgent need to integrate these functions under the direction of a single individual, whom we call a materials manager.

At the International Latex Corp., Dover, Del., "pure traffic has taken a backseat to the growing field of physical distribution," according to distribution manager George Evans. All physical distribution activities have been placed in one department.

Smaller concerns benefit

This new approach is not confined to giant companies. For instance, the Russell, Burdsall & Ward Bolt & Nut Company of Port Chester, N.Y., set up a department of distribution about eighteen months ago to provide better service to customers by integrating all operations between manufacturing and sales. The company reports important improvements as a result.

Other companies that have recently set up distribution departments to encompass transportation and related activities include The Borden Company, New York; Cutter Laboratories, Berkeley, Calif.; and Nopco Chemical Company, Newark, N.J.

Along with the recognition of the importance of physical distribution, there has come an awareness that operations research techniques can produce rich results in this particular area. Operations research is the application of mathematical techniques such as linear programing, queuing theory, simulation, and theory of games (with or without an electronic computer) to answer such broad-gage questions as:

- How many warehouses are needed and where should they be located?
- How much inventory must be kept at various points in order to provide desirable customer service?
- What are the most economical shipping points in a multi-plant operation? (They are not always the ones closest to the market served.)

INTEGRATING YOUR TRANSPORTATION

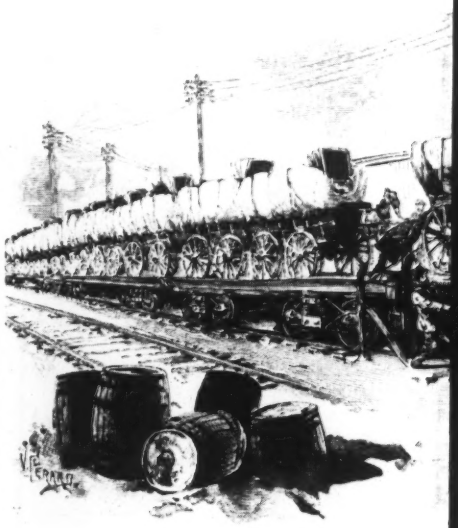
How

A LONG-AWAITED change is now taking place in transportation. For decades, both the Government and shippers have been urging carriers to integrate or coordinate their services so that the shipper could make the best use of the inherent advantages of each. Now through such technological developments as piggyback, fishyback, and containerization, the day of realization is fast approaching.

Instead of feuding, competing carriers are now—for the first time in the history of American transportation—sitting down together to work out positive solutions. Their goal: integrated or coordinated service to shippers that will cut the cost of goods on the move.

They are spurred by sweeping technological changes in transportation, such as the boom in piggyback and the burgeoning of containerization, and by industry's growing determination to integrate all the elements involved in getting materials into and out of the plant.

Morris Forgash, president of



While industry plans to integrate the activities involved in moving its goods from the plant to the marketplace, many carriers are going to work on coordination programs of their own.

Technology Is Changing Transportation

United States Freight Company ($175 million freight forwarder), is an enthusiastic promoter of piggyback. His company, which consolidates less-than-carload and less-than-truckload shipments and ships them at carload and truckload rates, has been scoring important cost reductions through the use of piggyback.

Forgash calls piggyback "a pipeline on wheels," for it allows door-to-door delivery without breaking bulk between carriers. Among his predictions for the next five to ten years in transportation are these:

- "Rail freight will move from coast to coast in 48 hours instead of the present five days by using roller-bearing piggyback flatcars.
- "Rail passenger deficits will be solved by adding fast-moving piggyback cars to passenger trains.
- "A container load of freight will be shipped from any point inland in the United States to any point in the world without physical rehandling of contents between point of shipment and delivery, thus coordinating U.S. railroads with those of the rest of the world.
- "Most railroad box car and refrigerator fleets will be supplanted by highway trailer and demountable truck bodies on flatcars."

In discussing the future of piggyback, Professor George P. Baker of Harvard University, who is president of the Transportation Association of America, says:

> Although neither the operational nor the regulatory problems have yet been ironed out, piggyback has had a significant 20 per cent annual growth since 1955. Last year, when rail carloadings dropped 15 per cent and truck traffic remained unchanged, piggyback carloadings rose 11 per cent. So far this year, they are up almost 60 per cent, compared to a rise of 7 per cent in total carloadings.
>
> Even if this pace slackens and we revert to the 20 per cent growth pattern, the total piggyback carloadings should reach 1 million in 1964 and 2 million in 1968, compared with 276,065 in 1958.

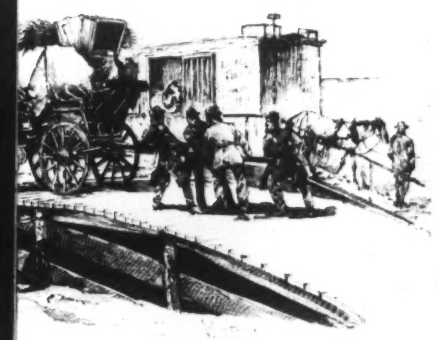
Daniel P. Loomis, the president of the Association of American Railroads, estimated last month that within a few years more than half of all the traffic handled by the railroads would be moving by piggyback.

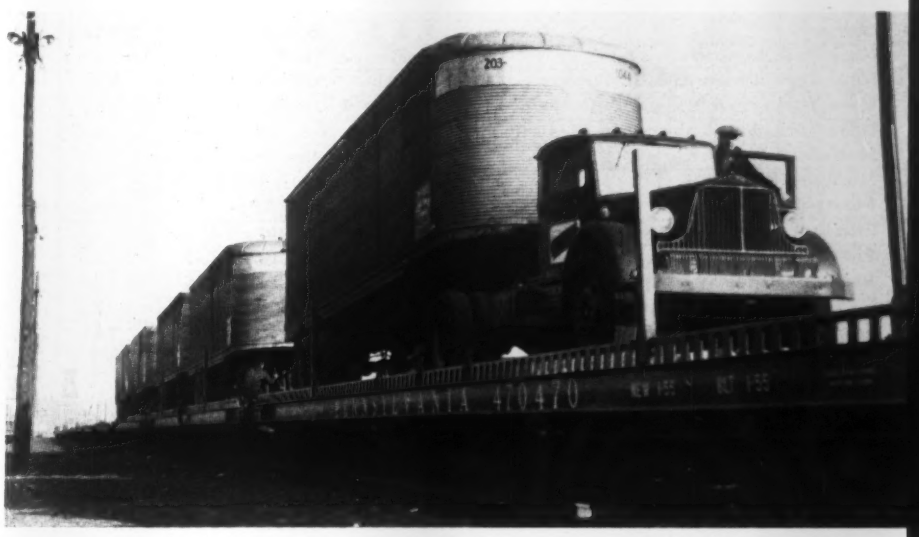
The rise in the number of trailers moving by piggyback is even sharper than the increase in piggyback carloadings, for there has been a trend toward longer flatcars that hold more trailers.

The basic theory behind piggyback is that the railroads can produce long-haul ton-miles for about half the cost of motor carriers and that the use of the trailer avoids the high terminal costs in transferring a load of that size. Also, the dispersal of industry in recent years to outlying points—frequently without rail sidings—has helped the development of piggyback.

The railroads have discovered that

PIGGYBACK *has come a long way since the Long Island Rail Road pioneered the service back in 1884 by moving farmers' produce-loaded wagons into the city.*





Where Piggyback Now Stands

Here's an up-to-the-minute guide to the railroads that are now providing trailer- or container-on-flatcar services.

RAILROAD	Piggyback plans provided	When piggyback began	Piggyback carloadings 1957	1958	1959†	1960†	Percentage of total freight revenue from piggyback service 1958	1959
Atchison, Topeka & Santa Fe	2, 4	November 1954	NA	NA	NA	NA	NA	NA
Baltimore & Ohio	2, 3, 4	July 1954	5,991*	7,547*	11,300*	17,000*	0.5	0.8
Bangor and Aroostook	2	December 1958		1	NA	NA	NA	NA
Bessemer & Lake Erie	2	October 1956	1,387	1,735	2,200	3,600	NA	NA
Boston and Maine	1, 2, 3	May 1956	3,255*	7,997*	16,050*	25,000*	0.6	2.0
Canadian National	1, 2	December 1952	NA	NA	NA	NA		
Canadian Pacific	1, 2	January 1952	24,000	63,000	100,000	110,000	1.4	NA
Central of New Jersey	2, 3, 4	July 1956	NA	NA	Increase	Increase	NA	NA
Chesapeake & Ohio Railway	1	March 1959	—	—	NA	NA	—	NA
Chicago, Burlington & Quincy	1, 2, 3, 4	1941	15,700*	27,750*	40,000*	52,000*	2.0	3.0
Chicago & Eastern Illinois	1, 2, 3, 4	1952	NA	7,500	10,000	NA	2.0	3.5
Chicago Great Western	1	July 1936	9,578	9,185	9,200	9,300	2.0	2.0
Chicago, Milwaukee, St. Paul & Pacific	2	January 1959	—	—	1,500**	3,000**	NA	NA
Chicago & North Western	1, 2, 4	March 1954	12,959	31,730	42,248	50,000	NA	NA
Chicago, Rock Island and Pacific	1, 2, 3, 4	November 1956	NA	1,292	7,500	NA	NA	NA
Colorado and Southern	2	September 1956	NA	NA	NA	NA	NA	NA
Delaware & Hudson	1, 2, 3	May 1956	3,255	3,967	6,000	8,000	NA	NA
Delaware, Lackawanna & Western	2, 3	July 1954	16,500	19,600	24,000	26,000	4.0	4.8
Erie	1, 2, 3	June 1954	—	up 72%	up 25%	NA	1.0	1.0
Florida East Coast	1	June 1957	1,396	3,141	4,500	5,000	0.9	NA
Fort Worth and Denver	2, 3	July 1956	96	220	400	600	0.5	0.5
Great Northern	2	May 1954	9,693	10,898	13,100	14,400	NA	NA
Illinois Central	1, 2, 4	June 1955	NA	NA	NA	NA	NA	NA
Kansas City Southern	2	September 1954	3,447	4,278	6,500	8,000	1.5	1.5
Lehigh Valley	1, 2, 3	July 1954	3,654	4,866	8,500	NA	NA	NA
Long Island	2	February 1956	753	834	900	1,000	0.5	0.5
Louisville & Nashville	2	August 1955	740	844	1,800	2,700	0.5	0.5
Maine Central	3	November 1958	—	10	NA	NA	0.5	NA
Minneapolis & St. Louis	1, 2, 3, 4	November 1955	231*	629*	1,900*	3,500*	0.4	0.4
Missouri-Kansas-Texas	1, 2, 3, 4	1954	8,800*	4,300*	6,000*	9,000*	NA	NA
Missouri Pacific	2, 4	August 1956	6,007**	12,170**	18,000**	20,000**	1.0	1.5
Monon	1, 2, 3	January 1955	3,747	4,058	4,500	NA	1.1	1.2
New York Central	2, 3	April 1958	—	4,498**	31,000**	65,000**	NA	NA
New York, Chicago & St. Louis	2, 3	July 1954	NA	NA	NA	NA	1.5	NA
New York, New Haven & Hartford	1, 2, 3, 4	December 1937	37,982	37,872	40,000	40,000	2.0	2.5
New York, Susquehanna & Western	2	December 1955	69	154	200	300	3.0	NA
Norfolk & Western	1	November 1955	47	0	NA	NA	0	NA
Northern Pacific	2	April 1955	5,770*	6,811*	NA	NA	NA	NA
Pennsylvania	1, 2, 3, 4	July 1954	73,486	56,423	75,000	NA	1.3	2.5
Pittsburgh & Lake Erie	2	January 1959	—	—	750**	NA	0	0.2
Pittsburgh & West Virginia	2, 3	January 1955	2,157	2,813	3,000	3,400	1.3	1.3
Reading Railway System	2	January 1955	1,314	1,764	2,400	3,200	NA	NA
St. Louis-San Francisco	2, 3, 4	April 1955	1,371	2,336	4,000	6,000	0.4	1.0
Soo Line	2	March 1955	945	1,306	1,700	3,000	0.6	NA
Southern Pacific	1, 2, 4	May 1953	NA	NA	NA	NA	NA	NA
Union Pacific	2, 3, 4	August 1953	NA	NA	NA	NA	NA	NA
Wabash	2, 3, 4	July 1954	14,610	17,046	21,300	Increase	2.7	3.0
Western Maryland	2	January 1955	2,221	2,876	3,300	3,800	0.5	0.5
Western Pacific	1, 2, 4	1957	NA	NA	NA	NA	NA	NA

In addition, these railroads are going ahead with plans to provide piggyback (TOFC) services in the near future: Atlantic Coast Line; Rutland; Toledo, Peoria & Western; Richmond, Fredericksburg and Potomac; Kansas, Oklahoma & Gulf; Midland Valley; Oklahoma City-Ada-Atoka. Piggyback service is now provided by the Denver & Rio Grande Western; Spokane International; and St. Louis-Southwestern, but data are not available from these roads.

*Trailers
**Containers or containers and trailers
†Estimated
NA Not available

INTEGRATING YOUR TRANSPORTATION

How Piggyback Plans Work

PLAN I: The railroads move the loaded trailer of common carrier truckers. The shipper is billed by the trucker, and the shipment moves on one bill of lading. The shipments move under regular motor carrier tariffs, in which rates are determined by the classification of the commodity shipped. Technically, the movement is under either joint rates or substituted service.

PLAN II: The railroads' own service. Tariffs are similar to those used by common carrier truckers. Railroads perform door-to-door service.

PLAN III: Rates are based on a flat charge, regardless of the contents of the trailer, which is usually owned (or leased) by the shipper or freight forwarder. Pick-up and delivery must be performed by the shipper, since service is from piggyback ramp to ramp.

PLAN IV: The shipper or forwarder furnishes a trailer-loaded flatcar, which may be owned or leased. The railroad makes a flat charge for the movement of the car, whether loaded or not.

their cost advantage over the truck in long-haul movement of trailers vanishes when old-fashioned flatcars, merely reconverted for piggyback, are used. Consequently, they are investing heavily in long (85 feet or more), lightweight piggyback flatcars, which are being produced by companies like ACF, Inc. and General American Transportation Corp., and some railroads.

Working on joint rates

Symbolic of the efforts by railroads to improve their working relations with common carrier truckers are the joint rates set up by the Rock Island Lines (with Consolidated Freightways) and the recent statement by the railroad's president. Says Rock Island president Downing B. Jenks:

> I think the railroads have spent a lot of time and money trying to make operations difficult and less economic for the truck lines. It seems to me that if we devote this much energy to working with common carrier truckers on matters of mutual interest, we both will be much more successful. The time has come for the railroad industry to sit down with the leaders of the interstate motor common carriers for a complete exploration of all areas in which they might work with one another to the benefit of the shipper, the general public, and themselves.

This new approach is also approved by such spokesmen for the common carrier trucking industry as Welby Frantz, executive vice president of Eastern Motor Express, Inc., Terre Haute, Ind. Says Frantz:

> Companies are not particularly interested in whether their shipments move by water, rail, truck, or air as long as their real needs are served. That means putting their goods at the market point at the earliest possible moment, in the best possible condition, at the most economical cost. Now, if we are going to arrive at that stage, it seems to me that we are all wasting a lot of money and effort fighting one another. Instead, we should be spending that much money and effort in investigating the real needs of shippers and applying those funds to the development of equipment and systems that will meet those needs.

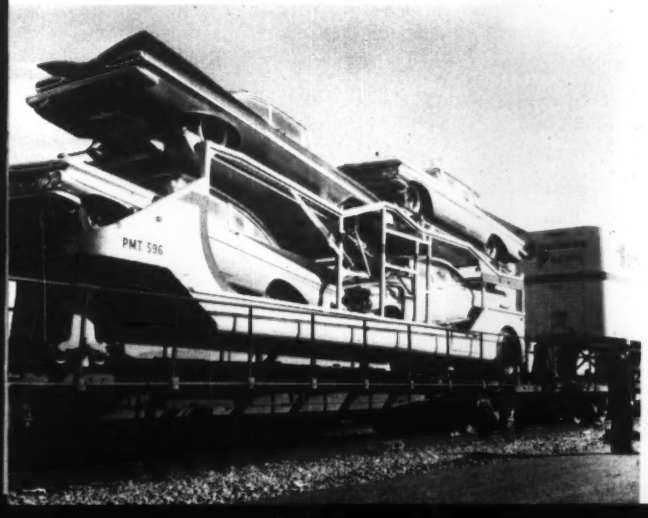
One of the primary ways of achieving coordination is the setting up of joint rates by two or more carriers. This provides for the uninterrupted movement of a shipment through two or more different carriers on one bill of lading. By combining the best advantages of each different carrier, the joint rate can frequently be lower than that offered by a single carrier over the route. It benefits the shipper by cutting down paperwork and insuring straightforward movement of goods. It benefits the participating carriers by extending the sales territory of each into that of the other. In the past, joint rates were seldom used unless the carriers were of the same type—e.g., two trucking companies.

Other coordinated services

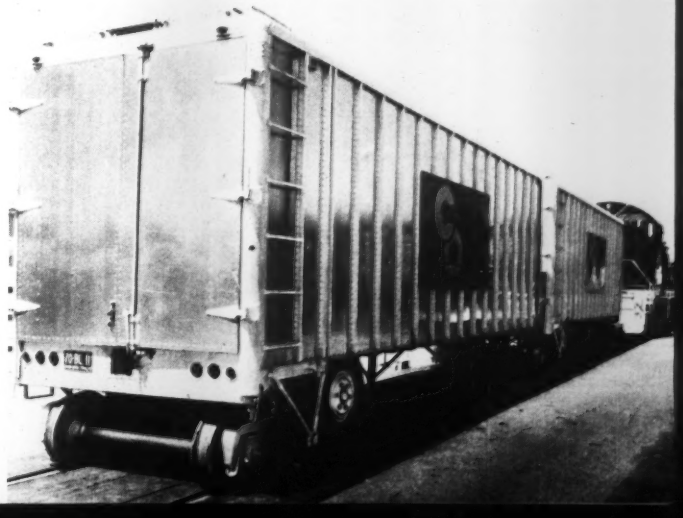
Piggyback has been the most effective means of achieving coordinated service in recent years, though not the only means, of course. For example, The Flying Tiger Line recently reached an agreement with a number of truckers for such service. In the new container service of Seatrain Lines, the Missouri Pacific moves van-size containers which have traveled by water between East Coast and Gulf ports.

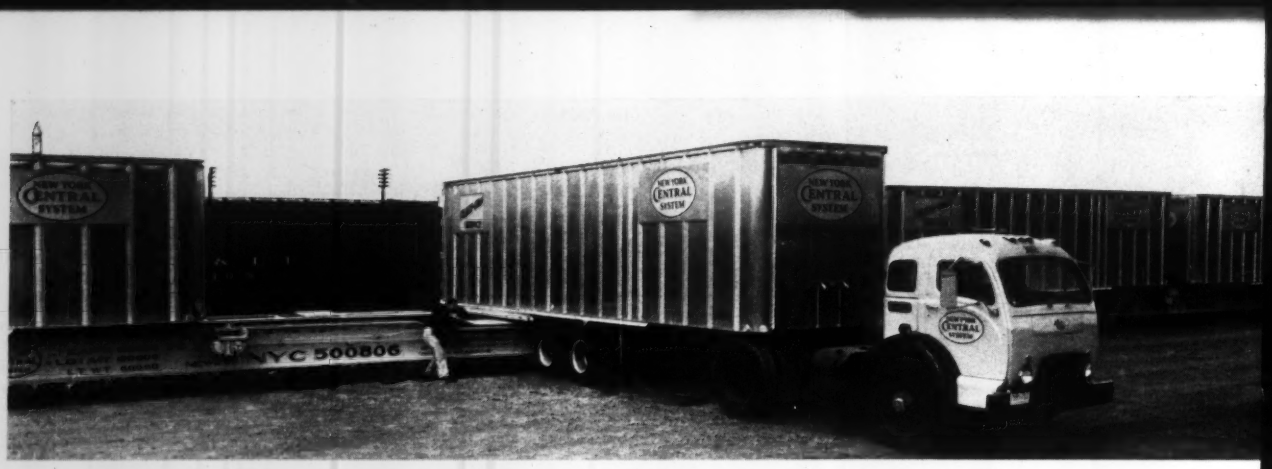
According to the American Truck-

PIGGYBACK ON PIGGYBACK *puts eight automobiles on one railroad car, twice the number that can be moved in a boxcar. Delivery is speeded up and damage to new cars reduced, too.*



A TRUCK BACKS IN *to move the double-purpose van that rides on both rails and highways by using two sets of wheels. The C&O held test runs of the Railvan last month on passenger trains.*





BACKING ON *to a special flatcar, the Flexi-Van truck transfers the van for rail movement. Started by New York Central, the system is now used on two affiliated railroads.*

INTEGRATING YOUR TRANSPORTATION

ing Associations, the nation is on the threshold of a new era in transportation resulting from development of coordination between the two major surface carriers, rail and truck. As clear indications of the coming of coordinated service, Guy W. Rutland, Jr., chairman of the board of the ATA, points not only to the widespread attention being given piggyback and the intensive efforts to develop a standardized container which can be readily moved from truck chassis to flatcar or ship, but also to the increasing interest by both modes in the working out of joint rates and services between the two modes.

Says Neil J. Curry, president of California Cartage Company and chairman of ATA's executive committee:

Intensive research and effort are going into the technological side of joint service, not only between rails and trucks but in the whole field of inter-carrier relationships. Each mode and many supplying companies are making efforts to develop equipment suitable for transfer from one medium to another.

We are in what the naval people call the shake-down period. Each form of transport has been tending toward the final goal of doing that job which its peculiar and particular characteristics enable it to do most efficiently and economically.

However, the ATA is unhappy over the rails' use of Plans II, III, and IV piggyback.

As a matter of fact, not all common carriers truckers are enthusiastic about the use of piggyback in their own industry. For instance, O. K. Hargraves, director of sales of Navajo Freight Lines, Inc., Denver, says:

We don't feel that the use of piggyback service by motor common carriers is healthy for the trucking industry. It is simply too easy to let power equipment deteriorate to the extent that we would be dependent upon rail transportation in order to move our trailers. If this happened, we would lay ourselves open to the railroads' merciless policy of selective rate making. We have no plans to use piggyback.

No help for the "enemy"

As the table on page 64 indicates, not all railroads providing piggyback service offer it to common carrier truckers. Some railroads feel that the truckers will make use of the service only when they have something to gain from it, and they dislike helping the "enemy." However, the railroads that do provide this service to truckers feel that, as long as it is compensatory, it betters their own net

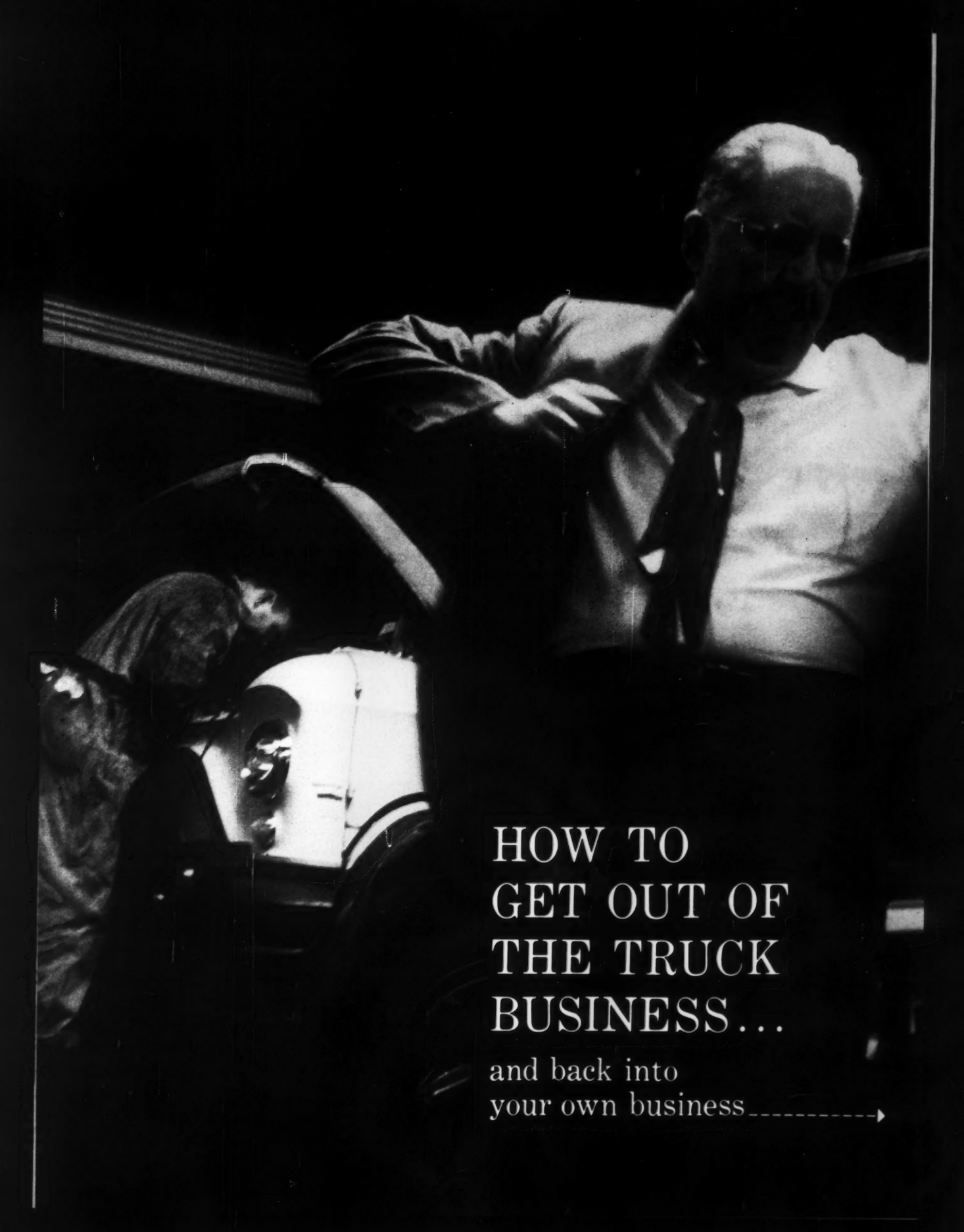
continued on page 71

Progress Report on Railroads' Use of Containers

RAILROAD	When service started	Length of containers	Number of containers per flatcar	Lift-on, lift-off methods
Baltimore & Ohio	February 1959	17 feet	4	Fork lift
Chicago, Milwaukee, St. Paul & Pacific	January 1959	36 and 40 feet	2	Side loading transfer from truck
Chicago, Rock Island & Pacific	November 1956	17 feet	2 or 3	Fork lift and crane
Central of New Jersey	January 1958	17 feet	3 or 4	Fork lift
Missouri Pacific	June 1956	32–37 feet	1	Crane
New York Central	April 1958	36 feet	2	Side loading transfer from truck
Pennsylvania	January 1956	21 feet	3	Fork lift
Pittsburgh & West Virginia	January 1956	7 feet	12	Crane

In addition, the following railroads are planning to provide container-on-flatcar service: Boston & Maine; Chicago, Burlington & Quincy; Chicago & Eastern Illinois; Chicago & North Western; Illinois Central; Missouri-Kansas-Texas; Northern Pacific; and Western Maryland.

These five railroads are either making feasibility studies of container-on-flatcar services or are experimenting with prototype containerization operations: Atchison, Topeka & Santa Fe; New York, New Haven & Hartford; Seaboard Air Line; Southern Pacific; Western Pacific.


HOW TO
GET OUT OF
THE TRUCK
BUSINESS...
and back into
your own business

Lease Hertz Trucks and reduce fleet problems to the writing of one budgetable check

maintenance per week

Take a close look at this picture. It shows the typical requirements of a five-truck fleet: the trucks, which tie down a sizable capital investment and the personnel and equipment needed for maintenance, dispatching and bookkeeping. Not shown, but very real, is the high cost of depreciation. This is the terrific attrition the average company pays for truck fleet ownership. These are the problems that are solved by Hertz leased trucks.

Now look at the dramatic change that the switch-over to Hertz truck leasing can bring about. The company receives one complete itemized statement each week, writes one budgetable check. The old trucks will have been purchased by Hertz at a fair market price, the released capital profitably reinvested. The people's time will be devoted to other, more productive work within the company.

This kind of success story happens again and again, when companies switch to Hertz truck leasing. Only Hertz can give you the *full benefit* of leasing advantages, because Hertz is the oldest, largest and most experienced truck lessor . . . with more offices and garages strategically located throughout the U.S. and Canada. Trucks are supplied to you faster, serviced faster by crack night crews and ready to roll each morning. Should the unforeseen put your regular Hertz leased truck out of action, Hertz has replacement trucks ready to serve you immediately, at no extra cost, to keep your deliveries rolling. That's why you're way ahead to lease from Hertz . . . America's No. 1 truck lessor.

Now look at some of the other benefits that your company will gain by leasing trucks from HERTZ

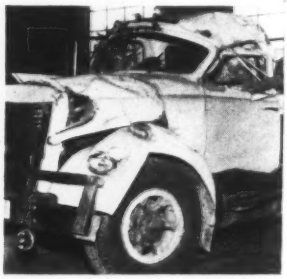
9 OTHER WAYS HERTZ HELPS YOU GET OUT OF THE TRUCK BUSINESS, BACK INTO YOUR OWN BUSINESS...

Hertz furnishes state license tags at no cost to you. This annual expense is completely eliminated.

Hertz paints each truck to your specification using your trademark, your choice of colors and design.

Hertz furnishes customized GMC or other modern trucks, or buys and rebuilds your present trucks.

Hertz garages, services, cleans and maintains your complete fleet of leased trucks *at night.*



Hertz furnishes complete insurance protection. In fact, Hertz replaces your entire truck if destroyed.

Hertz has extra trucks available at special low rental rates to help handle your peak delivery needs.

Hertz maintains more truck service stations throughout the U. S. and Canada than any other truck lessor.

Hertz furnishes all spare parts, replacement tires, chains, antifreeze, lubricants, oil filters, batteries, etc.

Now, Hertz also makes heavy, over-the-road equipment available for leasing to inter-city haulers.

Act today. Call your local Hertz offices, and have a Hertz sales engineer analyze your operation and suggest ways Hertz truck leasing can ease your problems. Or write direct to The Hertz Corporation, 218 S. Wabash Ave., Chicago 4, Ill. Dept. E6

operating revenue, regardless of how it affects the truckers.

Although there has been an increased use of piggyback by shippers and freight forwarders, there has apparently been a decline, at least on some roads, of common carrier truckers' trailers. The Pennsylvania Railroad handled fewer truckers' trailers last year than in any year since the service began in 1953.

Says John Clutz, director of research for the Pennsylvania Railroad:

> The primary reason why the use of piggyback by common motor carriers has not grown is that the Teamsters Union insists that the truckers can ship their trucks by rail only when there are no drivers available for over-the-road movement. We have had truckers tell us, "Even if you didn't charge us, we couldn't give you the business. We have to use the Teamsters if they are available." So about all we get in Plan I is the overflow, particularly during bad weather or over weekends, when many drivers prefer not to work.

CONTAINERS THAT DOUBLE *as truck bodies are now loaded along with boxcars on the special ships that Seatrain Lines has been using for three decades to move trains between East Coast and Gulf ports. The service provides six-day delivery and door-to-door service.*

Seventy-five years of piggyback

Piggyback services had their beginning back in 1884 on the Long Island Rail Road when farmers' wagons were moved from eastern Long Island into the city at a flat rate of $4 for the wagon, two horses, and the driver. Each of the three moved in separate cars, of course. However, the service petered out by the middle of the following decade.

Back in the 1920's and early 1930's, there were sporadic attempts to set up piggyback on a going basis, but these did not survive to the present day. For instance, the Chicago, North Shore & Milwaukee Railroad began a piggyback service between Chicago and Milwaukee for common carrier truckers, but abandoned it in 1947.

The present widespread growth started in 1953 and has boomed steadily ever since. Never before have so many railroads been involved or so many trailers moved over the rails.

Today, 52 railroads handle piggyback traffic, compared with only half a dozen six years ago.

Most sections of the nation are now provided with piggyback services. However, the Southeast remains barren, although the Atlantic Coast Line, the Southern, and the Seaboard Air Line Railroad are looking into its possible use.

Broadening the service

The pattern of growth in piggyback has generally been for the railroad first to institute Plan II, and then to broaden the service and open it to common carrier truckers and shippers under Plans I and III.

Among the 211 companies sur-

BY PUTTING *piggyback cars on its regular passenger-train runs from Staunton, Va., to Charleston, W. Va., the C&O cut the time of moving trailers by two hours.*

A MESSAGE FOR MEN IN MANAGEMENT

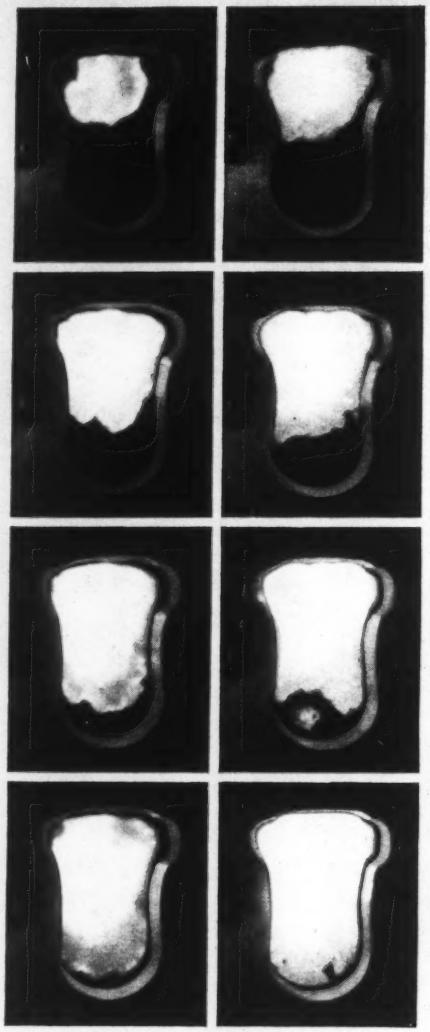
Ever wonder what an engine knock looks like?

Standard Oil research men put a picture window in a test engine. Through this window they watch the engine perform. They induce, in the engine, conditions that cause knock just to learn how such conditions can be eliminated. Ultra high speed motion pictures taken through the window are examined, frame by frame, the way a football coach studies last Saturday's game. Dozens of fuels of varying composition are tested to find which one is best.

This is one of hundreds of projects Standard Oil researchers are working on. Every one of the projects has the same objective: find ways to make Standard gasolines better.

If your company operates an automotive fleet—trucks, buses, construction equipment, salesmen's and executives' cars—learn more about the work Standard is doing to help you get better performance from your equipment at lower cost. Inquire of the automotive specialist in any Standard Oil office in the 15 Midwest or Rocky Mountain states. Or write **Standard Oil Company (Indiana), 910 South Michigan Avenue, Chicago 80, Illinois.**

You expect more from **STANDARD** *and you get it!*



Pictures of a knock. Left series (top to bottom) is normal. Spark from plug ignites fuel, piston completes normal cycle. Right series shows knocking combustion. The last portion of the fuel mixture is ignited prematurely (frame 3) because of low octane quality. Fuel is consumed before piston reaches correct position in stroke. At this point, knock occurs, fuel is wasted and power lost.

Through quartz window in cylinder head, engineers observe engine operation reflected in mirror above as safety measure.

veyed by DUN'S REVIEW (for details of survey, see page 105), 86 presently are making use of piggyback services for their shipments, and 43 are planning to do so.

Most of the surveyed companies which are not using piggyback services are unable to do so because of the nature of their products (coal, heavy machinery, petroleum, and so on), the length of their usual hauls, the size of their shipments, or because the service is just not available in their areas. About a dozen companies would like to use the service if it were available.

One traffic manager, for example, says: "In spite of our repeated requests, the carriers will not inaugurate this service, though we need it to meet competition."

A number of companies report that there is little advantage in Plan I or II piggyback for them. Since these plans are not very much different from the common carrier truck rates, the major benefit really has not been a cut in rates per se. However, several companies that had relied entirely on common carrier truck service (because of a lack of rail sidings) report that the coming of piggyback provided them with a lever for rate negotiation. Others, by relying on their own trucks, may already be transporting goods at lower cost than they could by common carriers. These see the best advantages of piggyback in Plan III.

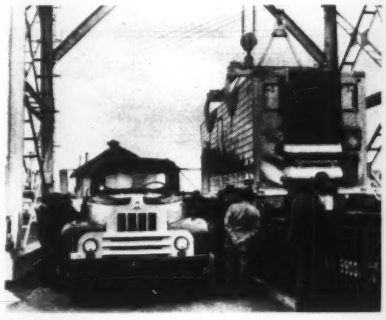
Also, some traffic managers whose plants are without sidings are turning to Plan II piggyback out of a feeling of loyalty to, or responsibility for, the welfare of the railroad industry.

Fewer use Plan III

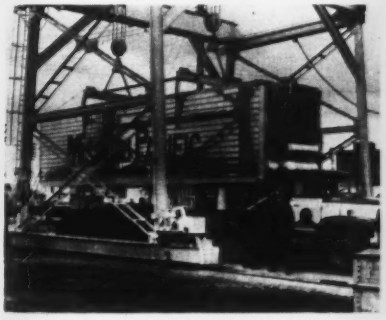
Only a handful—eight—of the 211 surveyed shippers have taken advantage of the savings that are possible by moving their own trailers (leased or owned) by piggyback under Plan III. Under this plan, the charge by the railroads is a flat one for the movement of the trailer between two points. This can result in hefty savings, particularly for goods which might otherwise move by rail or common motor carrier on high classifica-

FORK LIFTS *are used to transfer these 17-foot-long containers from trucks to Pennsylvania Railroad flatcars.*

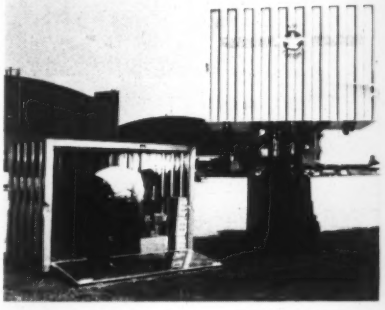
THIS *common carrier trucker reports important savings with use of containers on service between Chicago and the East.*



OVERHEAD *cranes are used by the Missouri Pacific to move 35-foot refrigerated containers from flatcar to truck chassis.*



THE NEW *containers are improving the shipment of fresh produce from Southwest farms to markets in the Midwest.*



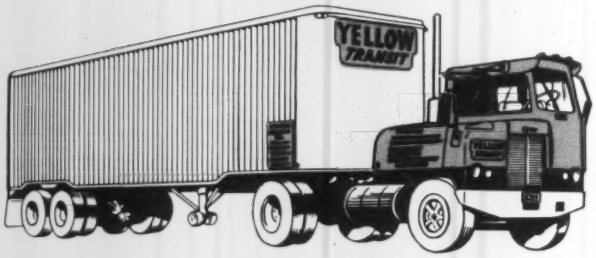
SMALL CONTAINERS *are loaded at the airport by Seaboard Western Airlines. They cut handling costs, reduce damage.*

MARINE *containers such as this one by Grumman-Aerobilt at Sealand Dock and Terminal Corp. are in increased use.*

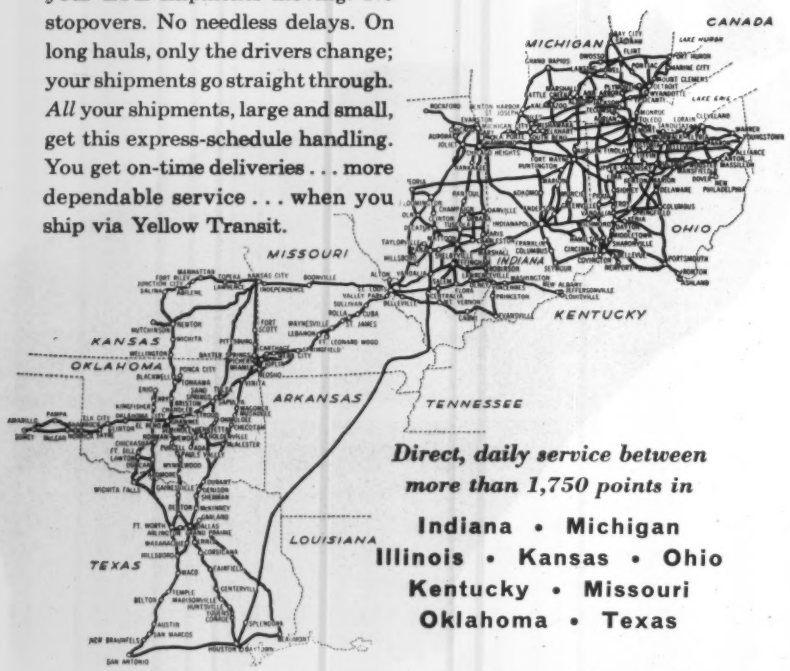
A TRACTOR *swings back to pick up a van body that stands on its own legs at Moore-Handley Hardware Co., Birmingham, Ala.*

THE LEGGED VANS *developed by the company for its own use save dock time, reduce investment in tractors, and speed delivery.*

Your LTL shipments get express-schedule service wherever Yellow Transit goes!



Depend on Yellow Transit to keep your LTL shipments moving. No stopovers. No needless delays. On long hauls, only the drivers change; your shipments go straight through. *All* your shipments, large and small, get this express-schedule handling. You get on-time deliveries . . . more dependable service . . . when you ship via Yellow Transit.



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FREIGHT LINES

tion rates based on the nature of the commodities shipped. The flat charge for the movement of a sealed, loaded trailer is usually about 25 cents per trailer mile when two are loaded on a flatcar.

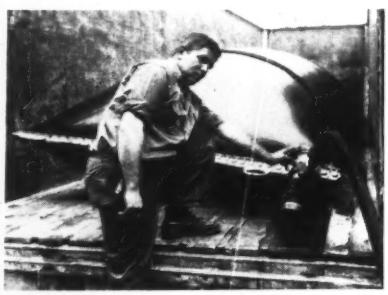
Good savings possible

Shippers can chalk up considerable savings by having the rails carry their long-haul trailers. Maintenance charges are reduced, since the grinding effects of long hauls are avoided, as are the expenses for gasoline, oil, tolls, and so on. And the expense of the driver—which now runs to about 8 cents a mile—is also saved. In addition, the flat charge considerably simplifies the chore of determining transportation costs.

In fact, these methods—Plans III and IV—are aimed particularly at shippers who use their own trucks for long-haul movements.

Piggyback is widely considered to result in costs of operation that are about 40 per cent below the highway costs on long hauls. Generally, piggyback pays off best—in terms of time and costs saved—when the haul exceeds 400 miles. However, there is no hard and fast rule on this.

Since loading and unloading time is reduced, and since piggyback cars may run on roller-bearing fast freight, they average about 175 miles a day as against 47 miles for a boxcar. More than 10 per cent of the railroad



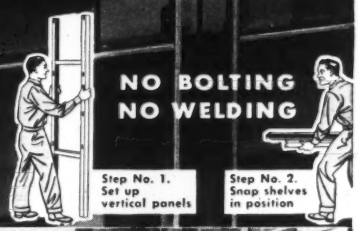
COLLAPSIBLE *rubber container is a simple method of converting dry-cargo truck to liquid hauling. However, regulatory snags are holding back the use of this technological advance. Because of protests from common carrier tank truckers, the ICC has forbidden the use of the containers by general common carrier truckers, even when the shipper owns the container.*

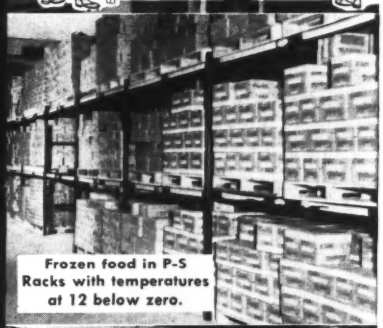
REDUCE TERMINAL DAMAGE to Consumer Goods

Large storage area with products tiered to ceiling height for maximum utilization of warehouse space.

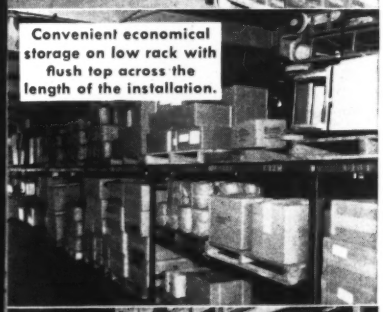
Simple and Easy to Erect

ONLY 2 PARTS TO ASSEMBLE

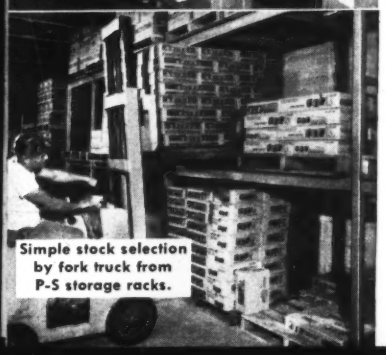




Frozen food in P-S Racks with temperatures at 12 below zero.



Convenient economical storage on low rack with flush top across the length of the installation.



Simple stock selection by fork truck from P-S storage racks.

with the NEW LOW COST

DEPENDABLE CONSULT P-S FOR THE BEST MATERIALS HANDLING EQUIPMENT

SERIES **58**

PAT. APPLIED FOR

STORAGE RACK

Movement of materials and merchandise in all-purpose truck terminal warehousing requires the *right* handling and storage equipment to reduce costly damage to stock.

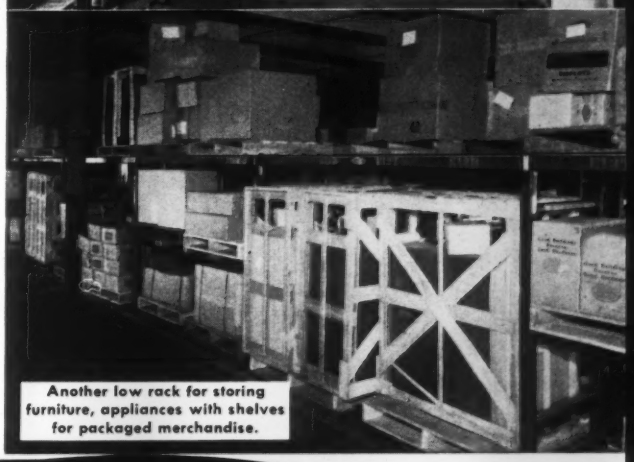
That's why warehouse traffic men have found that the completely new design, low cost P-S 58 rack has no equal for the safe, economical storage of any kind of materials, light or heavy, industrial products and merchandise enroute to plant or consumer outlets.

P-S 58 racks can be assembled in a matter of minutes, without use of tools, and dismantled just as easily. There are no small pieces, just two parts: the vertical panels and the shelf members which snap into panel slots to form the desired shelf openings, and lock to give rigid, no-sway support.

Racks are built to customer specifications of heavy duty channel steel for use with pallets, skids, boxes, or barrels.

Economical warehousing of merchandise using low flush top rack with staggered shelves.

Dry groceries neatly stored to ceiling height for convenient picking and reserve.



Another low rack for storing furniture, appliances with shelves for packaged merchandise.

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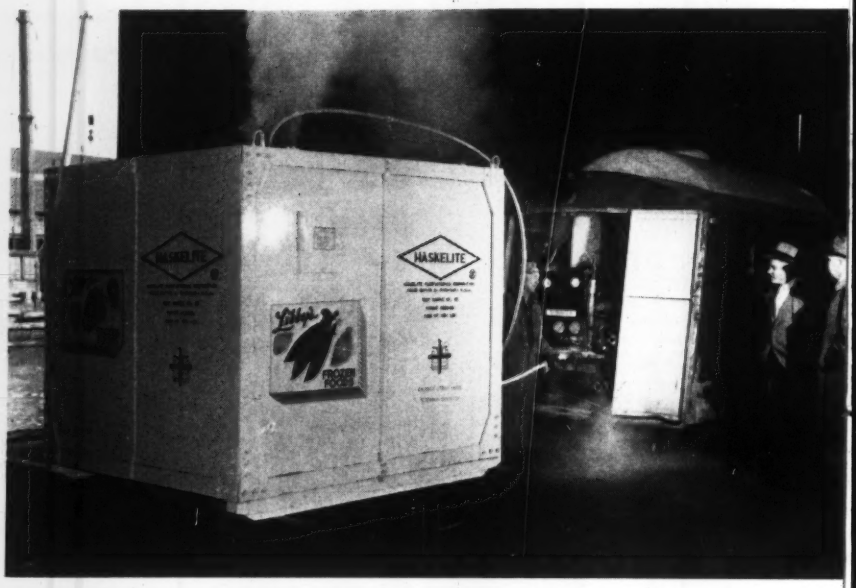
Export Division—75 West Street, NEW YORK 6, N. Y.

flatcars are now in piggyback service, and many orders have been placed for special piggyback cars.

Savings to the shipper can be substantial. The Dennison Manufacturing Company, $38 million-sales producer of paper products in Framingham, Mass., reports that it expects to save $50,000 this year by using Plan III piggyback.

The American Cyanamid Company, New York, reports that, compared with common motor carrier charges, it is saving about $100 for each trailer-load between New York and Chicago by this method. The Mennen Company of Morristown, N.J., indicates that its use of Plan III has brought "substantial savings in over-all distribution costs."



FROZEN FOOD *shippers are saving money by using this insulated container that keeps contents frozen for a month. Liquid nitrogen is pumped into the container at the plant, reducing the weight of the container while providing more space for the lading.*

Plan III rates in abeyance

About a dozen of the surveyed companies are either planning to adopt this new shipping method or studying it closely. Others would like to be able to use it, but many Plan III rates have been suspended by the Interstate Commerce Commission as the result of complaints by common carrier truckers. A decision resulting from the recent hearings held by the ICC on Plan III services should be made this Fall.

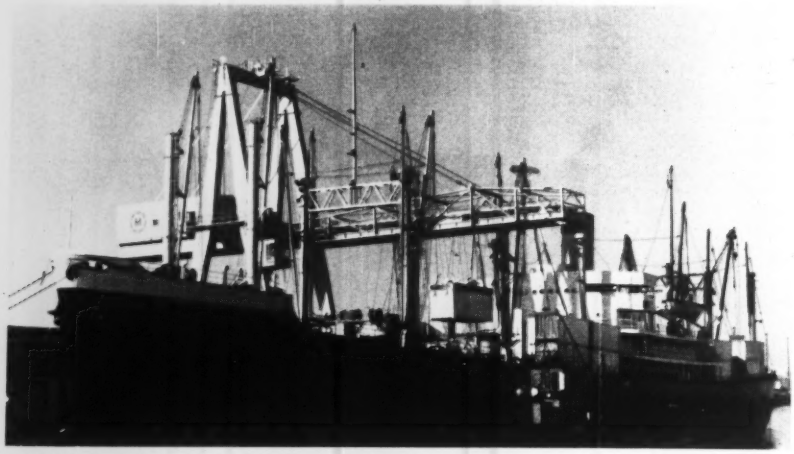
Some critics of the flat charge for Plan III piggyback insist that since, unlike other rates, it is not based on the nature of the commodity to be shipped, it will result in severe damage to the entire rate structure. Others hail this as an important advance against a cumbersome rate structure that calls for important differences in rates depending on how a commodity is classified.

Rates and containers

Many people in the transportation industry feel that the development of an integrated and standardized container system is also hampered by the present rate structure. In discussing such a system, Foster Weldon, director of research for Matson Navigation Company (which operates a container service between Hawaii and the mainland) says:

> We will never reach this millennium until there are some basic changes in the philosophy of rate making. Somehow or other, rates will have to be related to costs and simplified if there are to be really efficient integrated operations. When rates bear no relation to costs, there is little incentive for inter-carrier cooperation. Carriers try to avoid the less profitable cargoes and compete for the ones that for some strange reason have a big spread between cost and rate.
>
> We offer container space on ships, and we know just what this space costs us, but we can't be sure what our revenues will be under a commodity tariff. If carriers could simplify and merely sell space as space, it would spur new developments, and carriers and customers alike would be better off.

For a listing of the railroads that are now providing Plan III service to shippers, see the table on page 64.



HEADED FOR *the new state of Hawaii is one of the six Matson freighters that have been adapted to carry containers which become truck vans at shoreside. Since the shipments move from door-to-door in sealed compartments, there are substantial savings in handling costs and pilferage is reduced. Conventional marine-cargo shipping methods involve up to eight operations before final delivery. Matson is developing an all-container ship.*

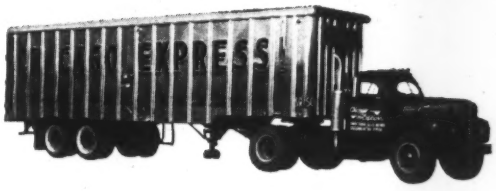
Bouquets from the users

Here's how the surveyed companies describe the benefits that they are getting from piggyback:

- "Piggyback has been a real boon, especially to our West Coast movements, where delivery time has been cut almost in half."—*Ammco Tools, Inc., North Chicago, Ill.*

continued on page 79

What the CXI speedometer means to you



In a single word, the answer is EXPERIENCE. Chicago Express hauled last year's payloads almost twenty-two million miles (more than ninety times greater than the distance from the Earth to the Moon!).

When you're shipping be sure to call Chicago Express who has the necessary experience to handle the job.

The dependable carrier serving the East and Mid-West.

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Savings begin the instant Sea-Land's trailer-truck picks up freight at your door. No extra packaging, no marking or stencilling! Once loading is complete, trailer doors are sealed. Cargo is never moved or scattered. No handling! No pilferage! No damage! And you can ship *any* kind of freight. Door-to-door delivery. Contact Sea-Land for *proven* savings.

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MAJOR SAVINGS on TL or LTL because . . .

your shipping container

becomes your trailer

goes via smooth waterway savings

and via truck delivery to destination

INTEGRATING YOUR TRANSPORTATION

- "It has substantially reduced our freight costs. Also, a trailer leaves on the same night it is loaded. A boxcar may take 48 hours between loading and departure because of switching." —*United States Rubber Company.*
- "Because the minimum loading weights for piggyback are lower than carload, it provides us with better inventory control." — *Duttson-Lainson Co., Hastings, Neb.*
- "Piggyback requires less bracing [than carload shipments], and this speeds up loading. Piggyback permits more frequent shipments because of the lower minimums."—*Kay Manufacturing Company, Brooklyn, N.Y.*

Biggest incentive: low inventories

Throughout industry, companies are insisting on more frequent shipments, as they strive to reduce the investment in inventories. Companies that have achieved faster delivery schedules by using piggyback report that the savings they have made in the investment in inventories are much more important than any possible savings in rates.

Shippers' associations (see DUN'S REVIEW, June 1958, page 86) are also moving fast to take advantage of the savings possible through piggyback rates. For example, the California Shippers Association (made up of dozens of companies) reports that it is saving 35 per cent on shipments by using piggyback.

The surveyed companies report that piggyback has cut both damage claims and pilferage and that it permits the use of a smaller quantity as the unit of shipping without increasing transportation costs.

Generally, piggyback services are best for companies that ship high-density products that enable them to reach the minimum load requirements easily. A shipper of luggage would find it difficult to fill the cubage of the trailer with 35,000 pounds, but a hardware manufacturer should have no trouble. Unless the minimum weight is met, the shipment doesn't qualify for lower truckload rates.

But the progress of piggyback is hampered by restrictions that do not occur in industry in general. For instance, the Chicago, Burlington, & Quincy Railroad recently offered to move shippers' trailers between Cicero, Ill., and Dayton's Bluff, Minn., for the flat charge of $220 per trailer for each round trip. However, as a result of protests by common carrier truckers, the rates (that is, the entire service) were suspended.

The railroad had set forth the offer in hope of capturing some of the shipments that were moving by company-operated trucks. The ICC knocked out the service on the ground that it would take business away from other carriers and that the movement in itself wasn't fully compensatory.

For the long-term outlook, many transportation people are placing their bets on the wheelless container, rather than on trailer-on-flatcar piggyback. Others point out that loading time is less for containers and that the weight carried is much less. Highway trailers on flatcars sometimes exceed railroad clearances, necessitating circuitous routing, and can provide a top-heavy load that is subject to sidesway. Says F. B. Whitman, president of the Western Pacific Railroad:

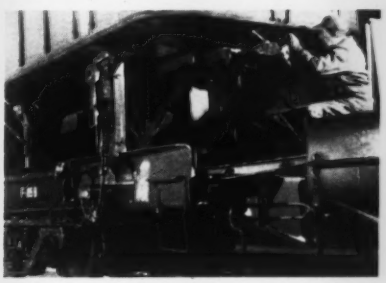
> Many of us feel that piggyback, as we term the handling of highway trailers on railroad flatcars, is but an interim step in the development of container techniques. Except for short hauls or special circumstances, there is little logic in stacking wheels on wheels. Almost half the initial cost of a highway trailer is represented by its running gear and related equipment. Multiply this by fleets, and the capital savings, not to speak of maintenance savings, take on major significance.

There is nothing very new in the idea of containerization or in the idea of unitizing the loading and saving costs by combining many little shipments into one sizable load. However,

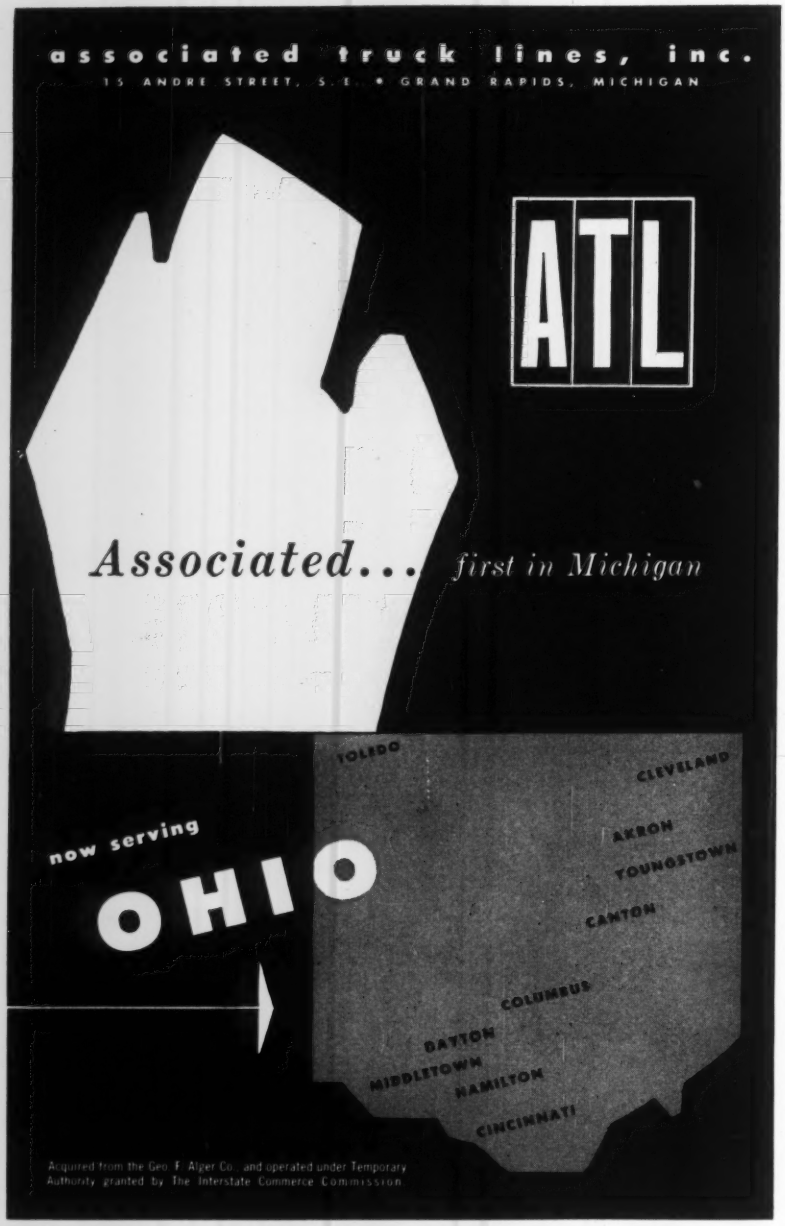
How Piggyback Cars Are Loaded

FIRST, *the truck-trailers are backed up a loading ramp leading to rail flatcars. This truck is loading at the Pennsylvania Railroad yard in South Kearny, N.J.*

NEXT, *the truck-trailer is backed down the full length of the flatcar-train. Flatcars are connected to each by bridge plates. The trailer is then detached.*



FINALLY, *the trailer's kingpin is tied down to the retractable ACF hitch, found on about 60 per cent of all piggyback flatcars. Each trailer takes six minutes to load.*



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FR103—Product Testing: Everybody's Doing It, *Melvin Mandell.* Chances are your competitors and customers are testing products. Here's how it's done . . . and where you may have it done.

FR104—Packaging: Industry Looks Ahead, *Annesta R. Gardner.* In packaging, change is the order of the day. Here is a summary of current trends plus an idea of things to come.

FR105—The American Office: Today and Tomorrow, *The Editors.* A 32-page extra emphasis feature. Inside the Improved Office, How the Future Office Will Look, How to Cut Down Paper Work, How Tight is the White Collar Shortage, etc.

FR107—Automation, 1958: Industry at the Crossroads, *John Diebold.* A two-part feature showing the record to date and the shape of things to come in a lively field less than 10 years old.

INTEGRATING YOUR TRANSPORTATION

the particular needs of industry at present have emphasized the advantage of containerization as never before.

Labor costs were never higher. Decentralized companies realize the importance of transportation costs as never before. Tight inventory control is the watchword throughout industry, and this puts a premium on fast, reliable deliveries. With competition razor-sharp in many markets, the cost advantages of reduced pilferage and damage can make or break a sale too.

When a shipment can move through various kinds of carriers without breaking bulk as it goes from rail to truck or from truck to ship, the savings in handling charges can be spectacular. Estimates of pilferage in the Port of New York alone run between $3 and $4 million a year.

Containerization's long history

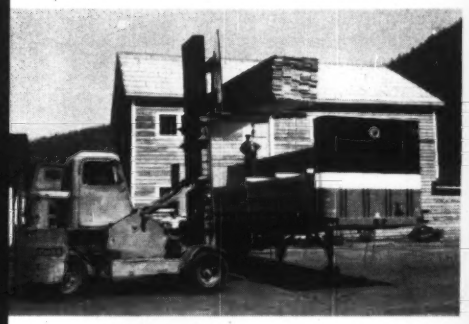
The history of containerization—van-size (or smaller) containers that move interchangeably between carriers—also goes back much further than many people realize. The Pennsylvania Railroad reports that, back in 1834, it began a through service between Philadelphia and Pittsburgh that involved moving a shipment between rail cars, wagons, and canal boats without breaking bulk.

The canal boats were made in detachable sections that were put together for every water haul and split for rail or wagon movement. The innovation faded out when through rail service began in 1857.

Other uses were made of containers during the nineteenth century, but not until 1917 were they used to any considerable extent again. In the late 1920's and early 1930's, there was widespread use of small containers (five to a flatcar) by the Pennsylvania and New York Central. But the rate structure and other problems eventually discouraged their growth. Other railroads also tried out containers and demountable truck bodies in their services back before World War II, but these also failed to catch on. Consequently, all the current container services (see table on page 66) are fresh efforts.

Ninety-eight of the surveyed companies report that standardized containers (containers that would be interchangeable among various modes of transportation) will be of service to them. They are looking forward to this new development and expect it to reduce damage, manual handling, pilferage, packaging, and the need to mark individual cartons.

The general traffic manager of a company that produces building materials says that he is looking forward to standard containers, for "then we will be ordering standard containers, not boxcars or trailers, and when they



LUMBER *to be moved by piggyback is loaded by the Northern Pacific Railway into an open-top trailer at Bonner, Mont.*

are loaded, the containers can move via rail, truck or water, depending on the shipment."

Proliferating systems

However, other traffic executives who think that standard containerization would be valuable are disturbed by the fact that various carriers are developing nonstandard systems. Says the general traffic manager of a $28 million sales volume company, "This standardization should have been done before any different piggyback operations were started."

At the present time, several committees are busily working on the problem of standardization. Representatives of various kinds of carriers are sitting down together at American Standards Association meetings to thrash out the many problems involved in arriving at a standard container or group of containers that would meet the varying needs of railroads, truckers, and marine operators —and, of course, shippers.

Containers currently in use vary not only in size and construction but also in the key matter of the method of transfer. Some are designed for

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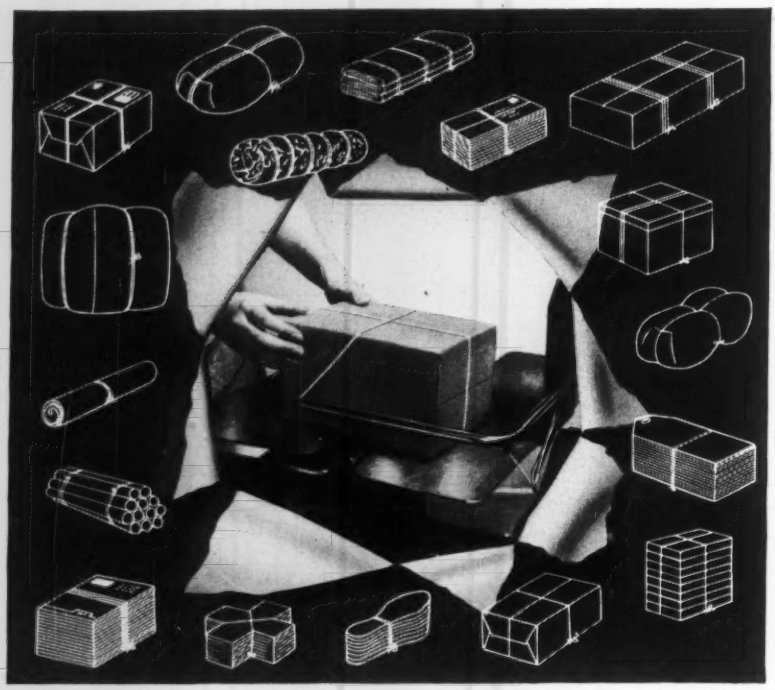

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9419

INTEGRATING YOUR TRANSPORTATION

transfer by crane, others by fork lift. New York Central's Flexi-Van containers are transferred by means of turntables on the flatcars (see photo, page 66). A representative of one of the major equipment producers involved in the standardization committee admits, "It's a very difficult problem, because every equipment producer and carrier has a pride of authorship in its own particular system. Each container-system developer is betting that his will become the standard system."

Standardization in five years?

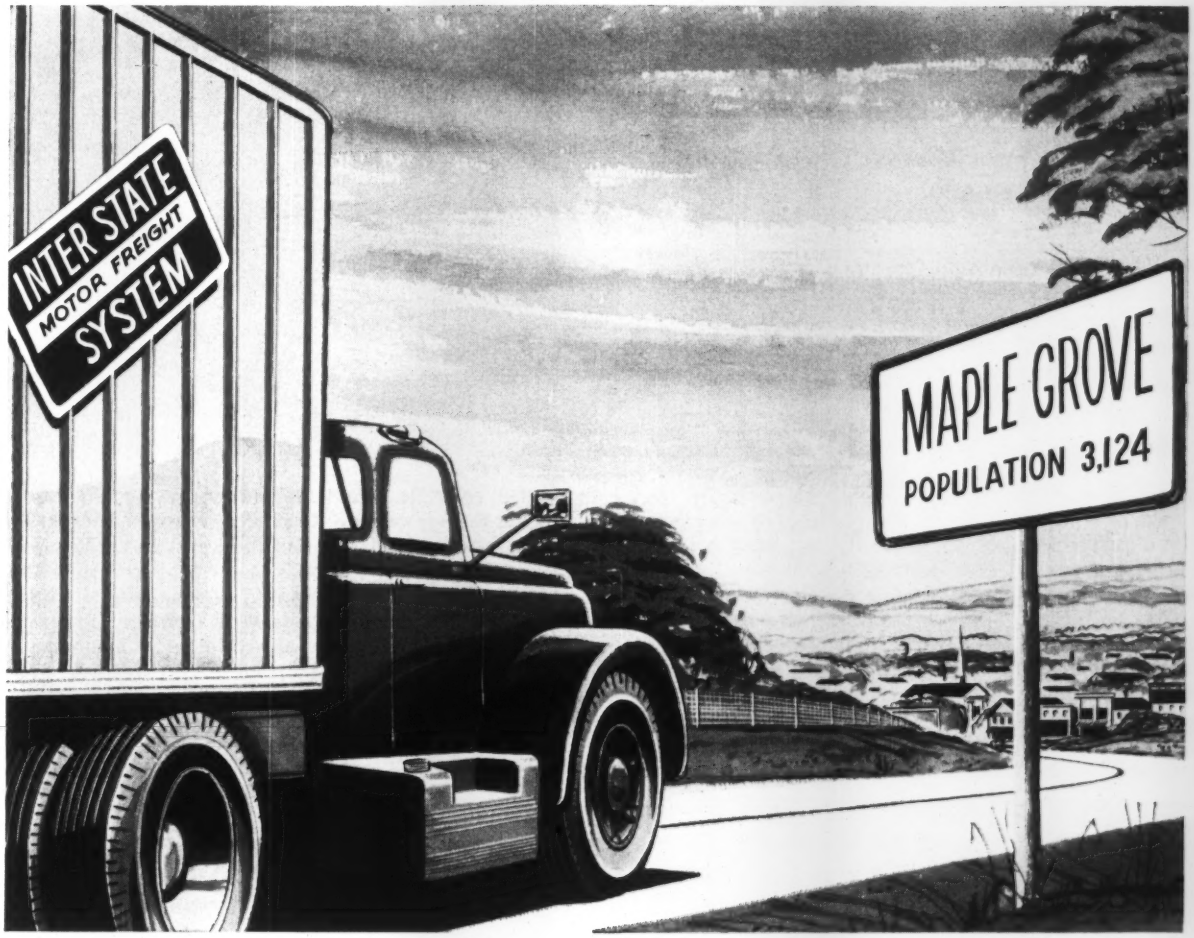
However, many of the people involved are hopeful that by 1965 the transportation industry will have worked out a standardized container system that will meet the needs of all carriers and the shipper as well. Few think that the result will be one all-purpose container. Instead, they envision perhaps four or five containers of varying sizes.

The lack of standardization is also a problem in piggyback operations. There is variation in the length and construction of piggyback flatcars, as well as in the methods of tie-down. Under one system, the tie-down is at the rear axle of the trailer; in another, at the kingpin (the point where the trailer is attached to the tractor). These variations have hampered the interchange of piggyback trailers between connecting railroads.

Says T. C. Hope, general traffic manager of Montgomery Ward and Company: "The heterogeneous nature of the equipment—its many shapes and sizes—has prevented shippers like us from making a through-movement over multiple lines. We are strapped right now because we cannot ship piggyback in interchange."

However, the widespread use of a special extra-long, lightweight piggyback flatcar is overcoming this problem to some extent.

Some traffic executives look upon containerization as a way to break through the barriers that separate different types of carriers. Says Dwight Hensley, traffic manager for Tung-Sol Electric, Inc., Newark, N.J.: "I think there's a good chance standardized



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MORE THAN A TRUCK LINE . . . A TRANSPORTATION SYSTEM

INTEGRATING YOUR TRANSPORTATION

ANOTHER DEVELOPMENT—*but not yet in use—is the Railiner container system of the Southern Car & Manufacturing Company. It involves lateral transfer of containers from truck to rail car. The Boston & Maine Railroad is planning to put the equipment into operation.*

containerization will bring through rates where none now exist. If this is done on a large scale, it should result in lower costs to carriers, which could be passed on to shippers in lower rates."

The versatility of containerization in tying together various kinds of carriers is clearly pointed up in the operations of the Garrison Fast Freight Division of Consolidated Freightways, Inc., Seattle, Wash. The trucking company picks up loaded containers from shippers and moves them by truck or flatcar to Seattle, where they are lifted aboard steamships bound for Alaska. There they are unloaded on railcars and trucks. Sometimes they even complete the journey by sled.

At present, companies are interested in containers primarily for their use in export movements. And the main impetus for the development of a standard intermodal container is coming from the marine interests, such as Grace Line and Matson Navigation.

An importer of dictating equipment made in West Germany, for example, reports saving 150 manhours on one shipment worth $150,000 by using a container that moved by rail, ship, and truck.

The importance of containerization is demonstrated by the present status

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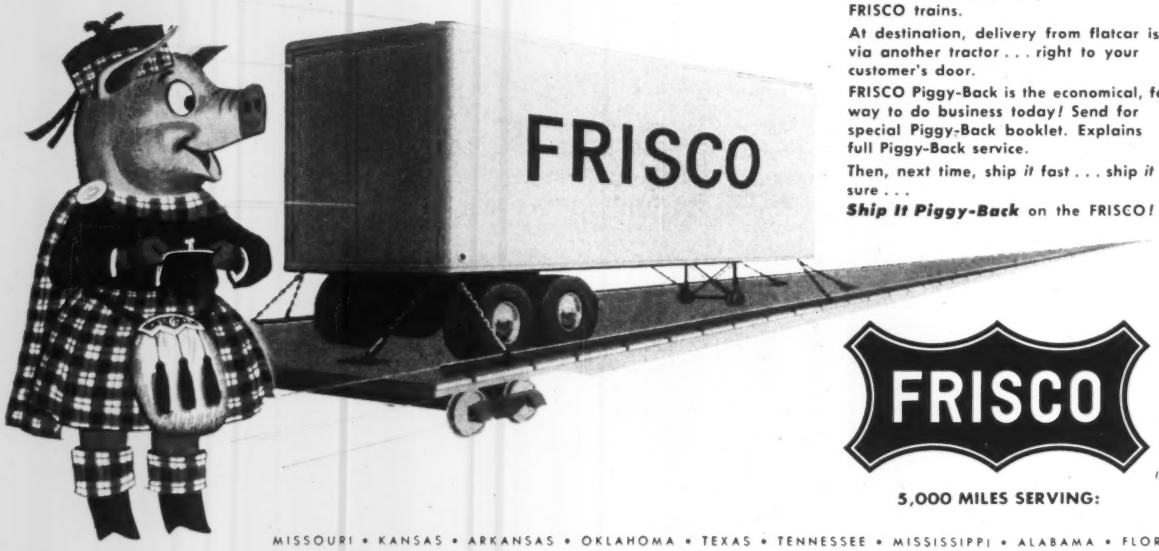

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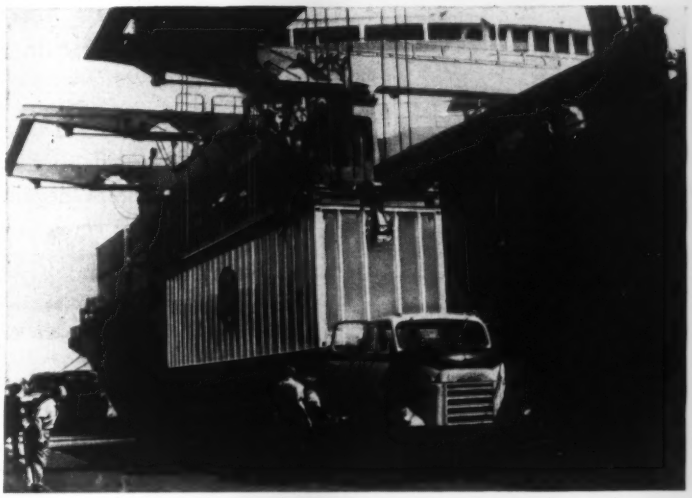

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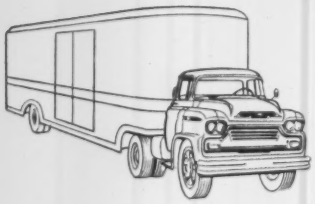

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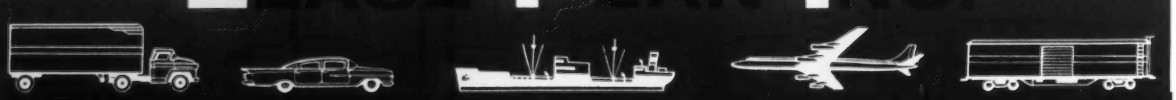


LEASING PROGRAMS FOR INDUSTRY

of coastal shipping. Just before World War II, there were ten deep-water shipping companies engaged in the Atlantic-Gulf ports trade. Now there are only two—Pan Atlantic and Seatrain—and both of these are container operations.

What will the Seaway bring?

The surveyed companies are about evenly divided on the effects of the opening of the St. Lawrence Seaway. Because of their location, the nature of their product, or other reasons, 105 companies see little or no effect on their transportation.

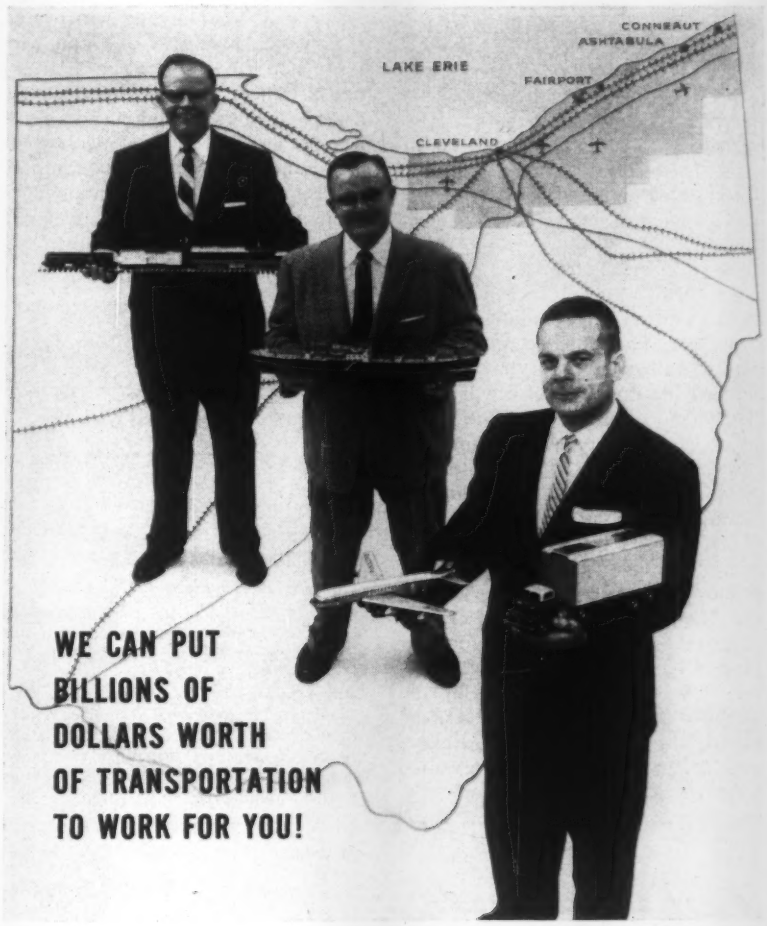
The remainder look for changes, but most of these will be concerned with import or export movements. The traffic manager of an electronic parts company points out that the Seaway would have little effect on the domestic shipments in his company unless a fishyback operation were developed similar to that of Pan Atlantic's or Seatrain's service for moving loaded trailer vans by ship between East Coast and Gulf ports.

Many of the shippers anticipate lower shipping costs even for companies not using the Seaway, since the railroads already are cutting rates to meet the competition.

Another advocate of fishyback operations on the Great Lakes is Professor Harry B. Benford of The University of Michigan. He points out that the opening of the St. Lawrence Seaway provides a wonderful opportunity to replace centuries-old cargo-handling methods with modern container units of trailer size.

"With all this emphasis on nuclear-powered vessels, it is a strange sight to see an ultra-modern ship being loaded with equipment developed a century ago," says Dr. Benford, who is an associate professor of naval architecture and marine engineering. "The unions at New York and other main ports have long opposed changes in cargo handling, but at Detroit and ports along the Seaway, this need not be a handicap."

Benford points out that cargo handling is about the only place left to economize in ship operations, and since about 30 per cent of a ship's



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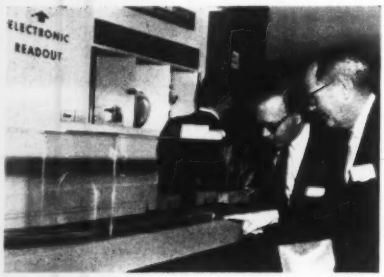
total expenses now go for cargo handling, much can be achieved in this area.

The impact of the St. Lawrence Seaway is also evident in at least one railroad's plans for container-on-flatcar service. The Chicago and Northwestern Railway reports that when it does provide this service, it will probably be in connection with the new lake port trade resulting from the Seaway.

Another fishyback operation is scheduled to begin this Summer when the Deck-top Container Corp. revives the movement of nonbulk shipments on the Great Lakes. Before World War II, the shipments of packaged freight accounted for an important share of Great Lakes shipping. However, it was discontinued during the war when the shipping fleet was taken over by the Government, and high costs of manual handling prevented its revival in the postwar period.

The new company, in which Jeno F. Paulucci, president of Chun King Associated Enterprises, Inc., a Duluth food producer, has an interest, plans to move trailers loaded with its products on the now unused deck space of ore and grain boats. The company hopes in this way to cut shipping costs as much as 30 per cent on movements between Duluth and New York.



STIRRING INTEREST *is a model of a new system for railroad car identification and tracing. At present, cars are checked visually, either directly or with closed-circuit television. The new system, developed by Link Aviation, installs a small plastic block on the undercarriage of freight cars. This block contains coils which activate a sensing device between the rails. The sensor then feeds the car number into a central electronic data processing system.*

Says Professor George F. Baker: "Every form of transportation recognizes the potential in containerization. The question is not whether its future is bright, but rather just how bright it is."

Guy W. Rutland, Jr., of Atlanta, Ga., chairman of the board of the American Trucking Associations, says:

> This containerization, if it works out as it should, may very well bring various forms of transport into a partnership something like the team members in a relay race. The freight package will be passed along like the runners pass along the baton. Everybody's hand will find the container fits and the packaged freight can be delivered efficiently with minimum handling and no mark except a few fingerprints.

Eventually, if standardization plans for containers are jelled and interchanges and regulatory problems are worked out, it will be possible for any shipper to send any shipment anywhere on a single bill of lading, using any and every mode of transportation to its best advantage.

Pleas for railroad diversification

The railroad industry still insists that the best way to achieve fully integrated transportation is to allow railroads unrestricted rights to enter

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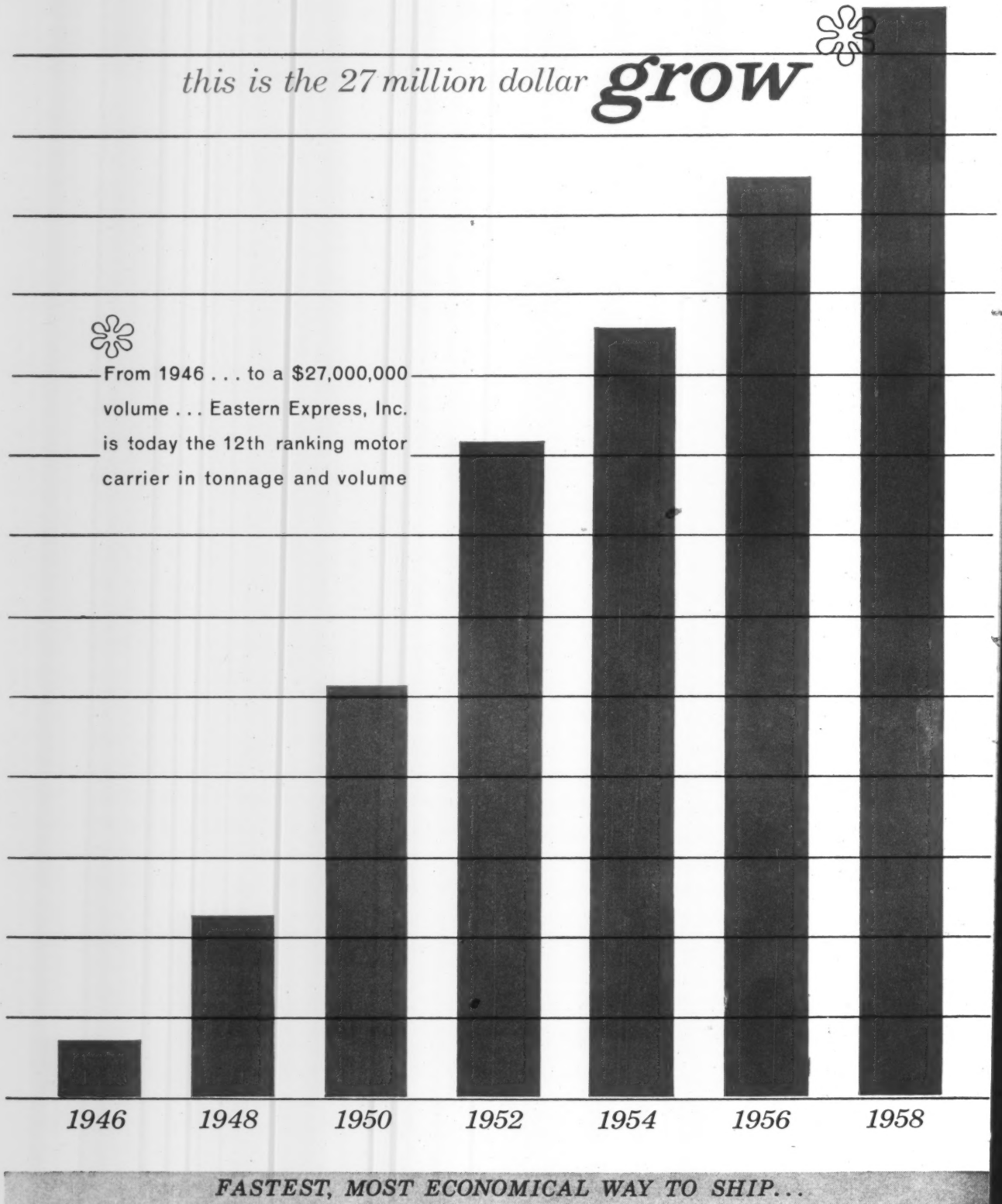
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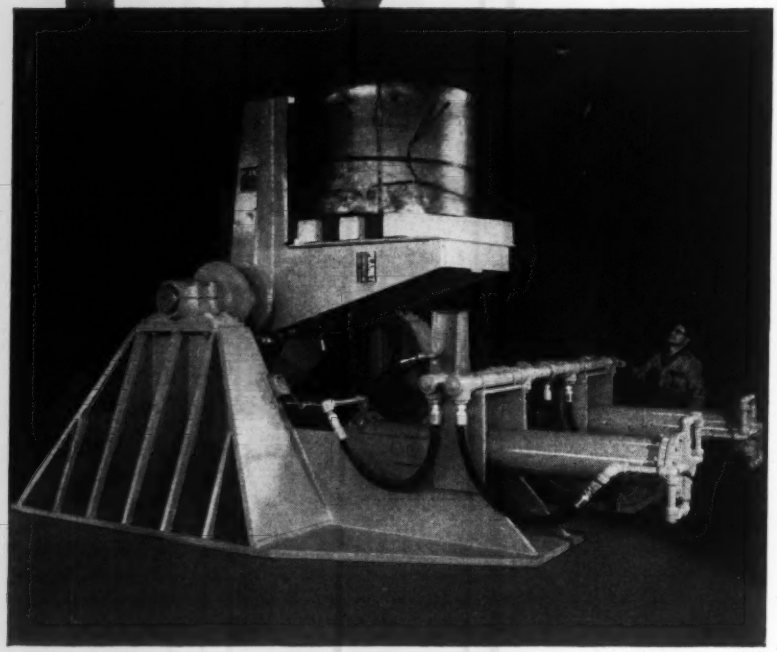

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INTEGRATING YOUR TRANSPORTATION

into other kinds of transportation. At present, they can enter trucking only as an incidental operation to their main business. They would like to diversify into transportation companies providing all types of services—truck, air, rail, and water—but there is plenty of strong and very vocal opposition to this proposed change in legislation.

The railroads argue that there would be tremendous economic advantages for the shipper if they had the right to diversify: they could eliminate duplicate facilities, improve shipment service, and lower costs. Shippers would benefit, the railroads claim, because they would be able to arrange for complete transportation through a single carrier and they would also reap a healthy share of the cost savings.

Says David I. Mackie, chairman of the Eastern Railroad Presidents Conference: "Transportation has become highly complex, often requiring the interplay of two or more modes in order to provide the efficient service the shipper requires. The services of a single mode of transportation are often insufficient in today's modern world."

Opposition from truckers

The trucking industry, which opposes diversified transportation, insists that if the railroads had such rights they could take unfair advantage of the truckers and drive them out of business, thus bringing a system of monopoly which would inevitably raise transportation costs in the long run.

Some people outside the trucking industry are coming to believe that legislation to allow railroad diversification is really not necessary to make possible coordinated service in solving many problems. Says John L. Weller, president of Seatrain Lines:

> The opposition to proposals for rail diversification is almost unanimous in other forms of transportation, but I am not sure that removal of at least some of the restrictions on railroads would do substantial harm to any other major form of transportation.
>
> On the other hand, I doubt that it would do the railroads much good either. History

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tells us that where railroads have engaged substantially in other forms of transportation, they have not benefited from it. They usually ran into the problem that each business requires a management devoted to the interests of that business, and that no man can effectively serve two masters or compete with himself. Many of our railroads once had unlimited trucking certificates, and most of these have been allowed to fall by the wayside.

I believe that the competitors of the railroads should review their long-standing opposition to this type of legislation and determine whether, in the light of present circumstances, their opposition is really warranted. I believe also that the railroads might well reexamine their interests and determine whether any real advantage would come to them from such legislation. It is just possible that we are all arguing about something which is not very important to anybody. And certainly we have plenty of important things to work on.

INTEGRATING YOUR TRANSPORTATION

To help shippers develop a smooth flow of materials into and out of the plant, railroads are working on the principle that . . .

Tailor-Made Cars Mean Business

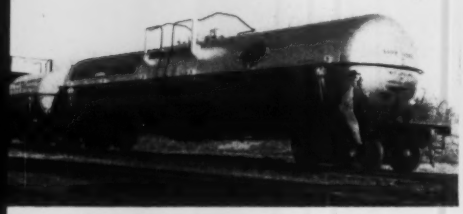
TO WIN back freight that has been captured by truckers and to give better service to the shipper, the railroads in recent years have come up with new rolling stock that is sending the old-fashioned boxcar down the same pike once traveled by the stagecoach.

For instance, one road recently developed 250 special boxcars to handle palletized tinplate and stopped the diversion of this business to motor carriers. Another railroad reports that half the freight carried in its DF (damage free) cars was recaptured from other modes.

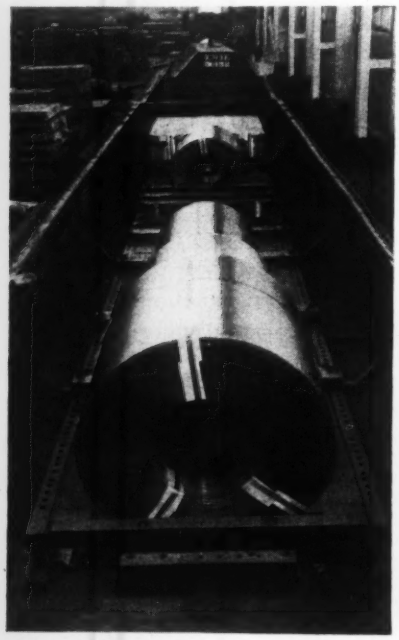
Covered gondolas with removable covers have become important in putting shipments of steel back on the rails. Steel producers like the Great Lakes Steel Corp. Division of National Steel Company report that these cars produce big savings by eliminating manual blocking and bracing and the need for special packaging to shield steel coils from the weather.

continued on page 99

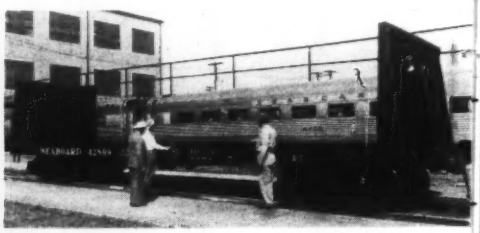
WORKMEN *fasten flat-top on gondola car which eliminates tarpaulins and dunnage, gives weather protection for shipments.*



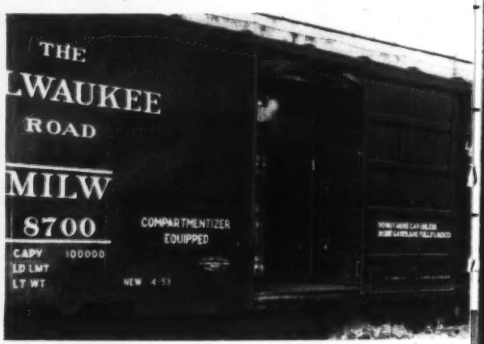
KING-SIZE *tank cars for the food and chemical industries are now on test runs. Lower rates for volume shipments are expected to help the rails recapture lost business.*



WHEN *the steel-carrying gondolas are uncovered, the heavy coils of steel that rest in special cradles are ready to be swung out by cables and moved to production.*



ANOTHER *bulkheaded flatcar, specially developed for the heavy movement of racked wood, is ready to roll.*



THE *Compartmentizer car contains movable inside bulkheads for separating and securing several different types of cargo. It cuts damage, avoids dunnage, speeds unloading.*

Where Texaco shatters costly ideas

The old idea that lubrication is just maintenance routine is breaking up like old-type grease under the speaker's gavel.

Here at the Texaco Research Center in Beacon, N. Y.—largest such facility—Texaco Lubrication Engineers learn the latest in lubricant technology and *how to apply it* as a major factor in cost control.

Thus, they can help your maintenance, production and purchasing people apply the principles of Organized Lubrication to reduce your costs.

Send for our book: "Management Practices that Control Costs via Organized Lubrication." Texaco Inc., 135 East 42nd Street, New York 17, N. Y., Dept. D-90.

LUBRICATION IS A MAJOR FACTOR IN COST CONTROL

Metallurgical Memo from General Electric

Why it sometimes pays to work in a vacuum

Metallurgical Products Department reports on new super-strong vacuum-melted alloys . . . and on how they open vast frontiers for space age designers

Spacecraft that will carry explorers into outer space—and other bold new aircraft being planned—will depend on metals that withstand highly corrosive gases and tremendous heat and force. Already, remarkably strong vacuum-melted alloys such as these are being produced by General Electric.

René 41* high-temperature alloy, an example of these new G-E vacuum-induction-melted materials, is one of the strongest metals that can be successfully formed and welded. Because of its high strength and reliability in 1600° to 1800° F. temperatures, René 41 is specified for parts subject to the intense heat in modern jet turbines—parts that must not fail.

By melting metals in a near-perfect vacuum, General Electric can make them almost free of impurities, give them exceptional strength, make it possible to form, forge or weld otherwise unworkable metals. Entirely new metals are being alloyed that could not even be made by air-melting methods.

Vacuum-melted alloys are just one of the products of the Metallurgical Products Department, headquarters for General Electric progress in metallurgy. Each product has one function: to help you make a better product—faster—at a profit. *Metallurgical Products Department of General Electric Co., 11179 E. 8 Mile Ave., Detroit 32, Mich.*

The fiery blast of jet-engines quickly causes failure in ordinary air-melted metals—but not those melted in a vacuum. G-E *vacuum-induction-melted* alloys offer spectacularly improved mechanical properties that withstand the heat and stress of space-age engines.

*René 41 is a trademark of the General Electric Company

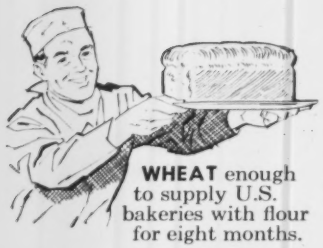
METALLURGICAL PRODUCTS DEPARTMENT

GENERAL ELECTRIC

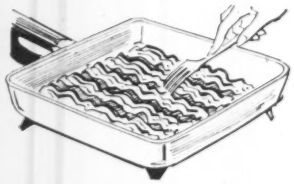
CARBOLOY® CEMENTED CARBIDES • MAN-MADE DIAMONDS
MAGNETIC MATERIALS • THERMISTORS • THYRITE® • VACUUM-MELTED ALLOYS

MOVING MOUNTAINS OF FOOD

25,000,000 Tons of Edibles Move from Farms To Your Table Each Year via Great Northern

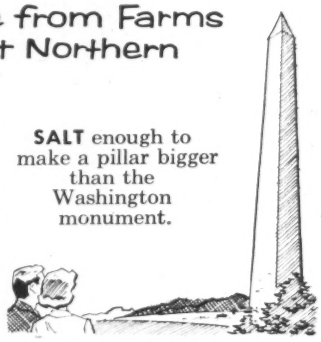


WHEAT enough to supply U.S. bakeries with flour for eight months.



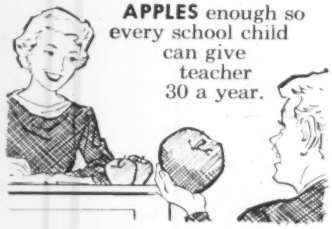
HOGS we transport provide a whopping 180,925,000 strips of bacon.

SALT enough to make a pillar bigger than the Washington monument.



POTATOES to satisfy 10,000,000 lusty appetites for a year.

APPLES enough so every school child can give teacher 30 a year.



BEEF ground from cattle we carry would make 1,000,000,000 hamburgers.

SUGAR BEETS for the sugar to make 415,000,000 pounds of candy.

CANNED GOODS we carry would load a train 12,120 cars long.

GREAT NORTHERN carried food *consumers* last year, too . . . lots of 'em! Total passenger miles: equal to five times the distance to the sun.

OFFICES IN PRINCIPAL CITIES OF U.S. AND CANADA

GREAT NORTHERN RAILWAY

Across the row of states that form our nation's northern border, farmers grow far more food than they can eat. They prosper by moving this tasty abundance to market. In a single year, 25,000,000 tons of good things to eat move across Great Northern rails on their way to your table.

This vital job is one we know how to do with high efficiency and speed. That's why people who ship via Great Northern keep coming back again and again.

If you have food to ship, consider Great Northern. Our experience in this specialty may be of distinct value to you.

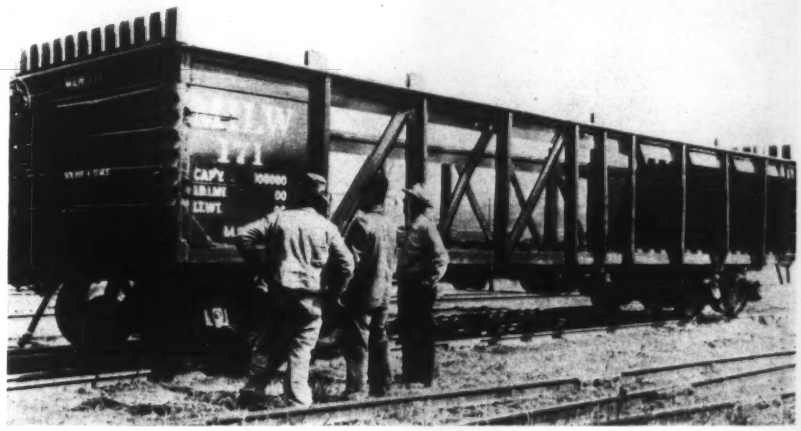
Write: G. D. Johnson, General Freight Traffic Manager, Great Northern Railway, St. Paul 1, Minnesota

INTEGRATING YOUR TRANSPORTATION

Other shippers also report important benefits from the use of special equipment. For example, the Union Carbide Plastics Company, a division of Union Carbide Corp., is saving its customers about $5,000 on every 1,000 tons of resins through the use of 8-foot-high collapsible rubber containers that fit seven to a special gondola.

Although special cars are more expensive and frequently are deadheaded, the revenue per car is usually considerably higher than that produced by the all-purpose rolling stock. The roads can attract freight to the

THIS *jumbo covered hopper car being loaded with malt is one of 100 that save packaging costs in handling such bulk commodities as sugar beet pellets and soy meal.*



THIS PEEK-A-BOO GONDOLA *is one of 200 converted by the Milwaukee road for the shipment of pipe and wood pulp. The denuded sides reduce the total weight of the gondola, permitting an increase in the size of the load and making loading and inspection easier.*

LUMBER LOADING *is made easy with this plug-door boxcar, which opens up 20 feet wide to permit easy entry for the fork-lift truck loaded with long stacks of lumber.*

How you may

SAVE $5000 to $15,000 A YEAR

on multiple shipping costs!

If you regularly address 5 or more cartons per shipment, you can make important savings and avoid costly errors by addressing your multiple shipments with

STEN • C • LABLS*

As a by-product of office procedure

You can prepare STEN-C-LABLS at the same time as your invoice, order, bill of lading or shipping papers—whatever your procedure or equipment—manual or electric typewriters, electric billing or accounting machines, slave machines or various IDP systems.

Imprinting direct to PANL-LABL on carton

Your shipping department makes unlimited impressions with STEN-C-LABL Applicator direct to PANL-LABL printed on carton eliminating expensive, time-consuming gummed labels. All addressing errors, mis-shipments and repetitive writing are avoided.

There's a* STEN • C • LABL* *to fit every multiple shipping need

. . . for imprinting on PANL-LABLS, gummed labels or tags . . . whatever your requirements.

You might be shocked . . .

. . . to find how antequated and outdated your present method of addressing multiple shipments actually is. *Five minutes of your time* in checking your multiple shipping procedures may save you thousands of dollars!

Send for **FREE BROCHURE** *giving full details!*

STEN • C • LABL, INC.

Dept. DR-6, 1821 University Ave., St. Paul 4, Minn.

Please send me FREE BROCHURE on saving with STEN-C-LABLS.

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Company_____

Address_____

City_____ State_____

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$1 MILLION SAYS WE MEAN BUSINESS

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- 700-acre industrial park in city limits, all utilities and municipal services.
- Municipal Airport — 847 acres — 4 one-mile runways. 28 miles from NAFEC. Ideal for aircraft and electronics related firms. Buildings and ground available.
- 600 more acres city owned ground adjoining airport.
- Sites on Maurice River — low-cost water transportation.
- Reduce your overhead.
- Money ready to help finance.
- All in heart of Delaware Valley expansion, within over-night trucking of world's richest market — ⅓ of nation's people, ½ of nation's buying power.

If you want action on a new plant, fast, competent, confidential, contact

MILLVILLE BOARD OF TRADE

4 North High Street, Millville, New Jersey

man conquers mountains

And, some day, man will also conquer cancer. With your help.

Guard your family . . . fight cancer with a checkup and a check

AMERICAN CANCER SOCIETY

INTEGRATING YOUR TRANSPORTATION

special cars because of the advantages they offer shippers—e.g., faster loading, less packaging, and less damage.

Bulk cars for the handling of such commodities as malt grain, flour, and sugar are now used to save on packaging and handling.

In addition to rail cars that cut damage claims through special dunnage arrangements or by being compartmentalized, railroads are putting into service new cars with hydraulically cushioned underframes to absorb the shocks of sudden stops. Developed by the Southern Pacific Railroad, the Hydra-Cushion car reduces the effect of a 10-mile-per-hour impact to 4 mph.

SPECIALLY DESIGNED *for the handling of pulpwood, these cars have open tops which facilitate mechanical loading. Since the sides of the cars swing open, unloading is fast, too.*

THE DF *(Damage-Free) boxcar has spread to all roads since introduced ten years ago. It is designed to cut dunnage, reduce damage in transit, and speed up both loading and unloading.*

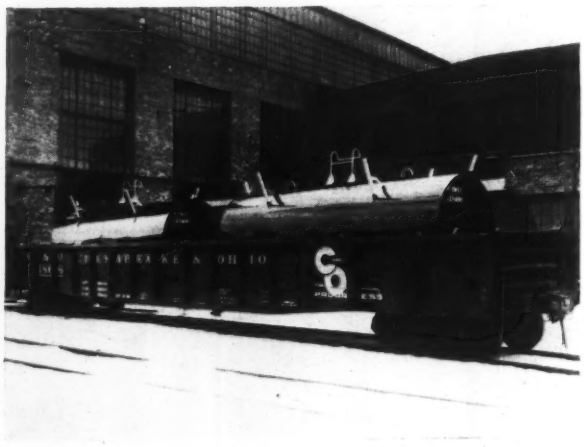
Working capital tied up? You can free funds by using United Air Lines Air Freight for regular distribution. Overnight delivery to many major markets can lead to reduced inventories, faster turnover. And your cargo receives the same "extra care" you enjoy as a passenger. Ship United and see. Our experts stand ready to help.

For free booklet that tells the Air Freight profit story,
just write Cargo Sales Division, United Air Lines, 36 South Wabash Avenue, Chicago 3, Illinois.

UNITED AIR LINES

YOU PAY NO MORE FOR EXTRA CARE WHEN YOU SHIP...

MATERIALS HANDLING *of small containers is speeded up by the use of special gondola cars which have drop bottoms for quick unloading of products such as high-value chemicals.*



RESEMBLING *a tank car, this steel-coil-carrying gondola is fitted with hoods that protect the steel against the weather and special cradles that eliminate dunnage, thus speeding loading and unloading.*

Because of this better equipment—cars that withstand faster speeds, safer roadbeds, faster classification methods, near-complete dieselization—the average freight train moves much more tonnage now than it did a decade ago. In 1958, the gross ton-miles per train-hour was 60.8 thousand, against 37.1 in 1946. In the clamor over the roads' financial troubles, little notice has been given to their capital expenditures, which have amounted to more than $11 billion during the past decade.

Special cars and improved equipment, some railroad men feel, are far from a complete remedy for the roads' competitive woes. One outspoken advocate of better and faster service to shippers is W. Gordon Robertson, president of the Bangor and Aroostook Railroad. This Spring, he called for the voluntary establishment of a central control authority to promote greater uniformity of operating standards among the roads—and thus more consistent quality of service to shippers whose goods must travel on more than one line. Says Robertson, "The best sales program in the world will fail if it isn't backed up by an efficient, fast, low-cost, high-quality service."

INTEGRATING YOUR TRANSPORTATION

A new Dun's Review survey of transportation in 211 companies (for details, see page 105) shows how management is gaining new control over the third-largest cost of doing business.

New Trends in Managing Transportation

TRAFFIC departments have undergone many changes in recent years and have moved a long step nearer to top management. There has been an important broadening of the responsibilities of most traffic executives. They have taken on the management of company car and truck fleets, the responsibility for warehousing, and even, in some cases, order processing.

Shipping and receiving departments are moving out from under the control of plant production management and are being made the responsibility of traffic. (For a statistical breakdown of the job responsibilities of 517 traffic managers, see DUN'S REVIEW, June 1958, page 71.)

Also, many of the surveyed companies report that, in order to improve materials management, cooperation between traffic and other departments—such as sales, purchasing, and plant engineering—has increased. For instance, the traffic department of the Sutherland Paper Company, Kalamazoo, Mich., has worked out a new distribution policy in conjunction with the market research department. The traffic manager of the Burroughs Corp., Detroit, reports that all operating divisions are now bringing packing and distribution problems to the traffic department for assistance and advice.

At the United States Rubber Company plant in Mishawaka, Ind., transportation committees headed by the traffic manager inquire into all phases of sales policy, inventory policy, materials handling methods, and location of storage areas, as they affect the smooth and integrated flow of materials. The goal is not to trim transportation costs *per se*, but rather to

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Don't let truck-management responsibilities divert *any* of your key executives from more important functions . . . *lease* your trucks from Ryder!

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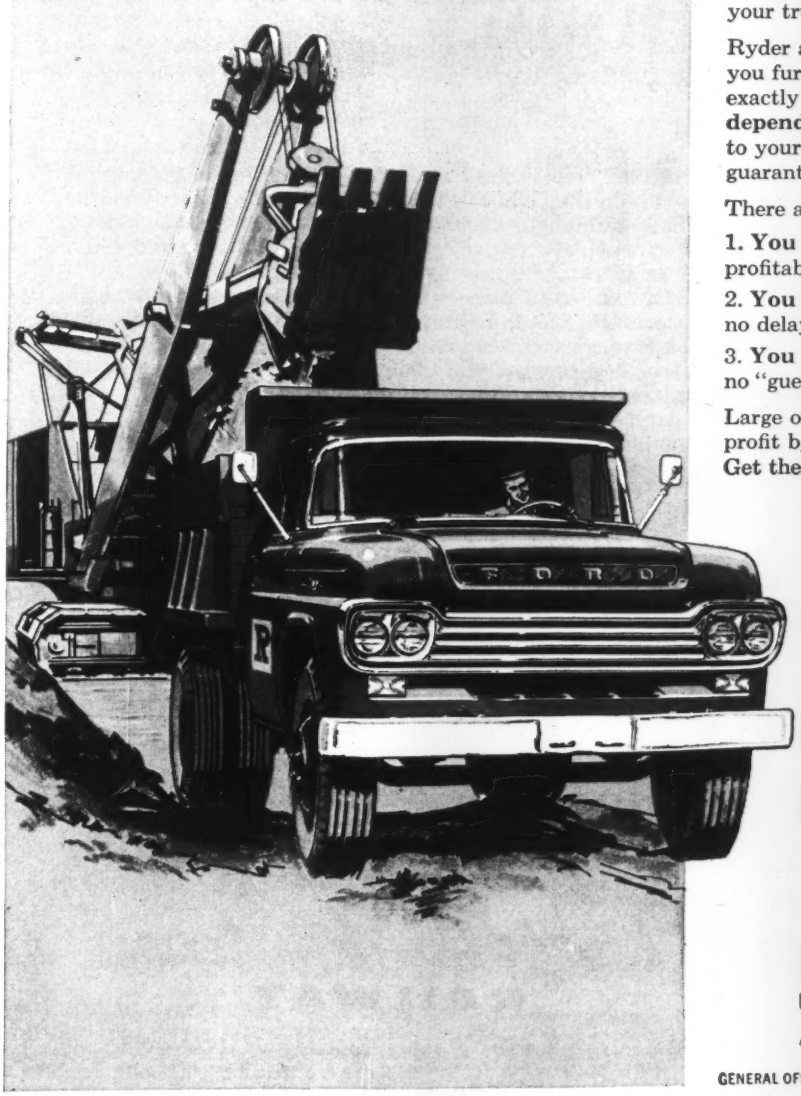
There are other big benefits for you, too:

1. **You free working capital** for more profitable uses and investments.
2. **You get uninterrupted transportation**—no delays, no stoppages at any time.
3. **You can budget accurately,** in advance—no "guesstimating" transportation costs.

Large or small, your business stands to profit by leasing from Ryder Truck Rental. Get the whole story now!



Write today for free brochure, "How Modern Management Can Profit from Truck Leasing" or for Ryder System's 1958 Annual Report.

Ryder System, a fast-growing, publicly-owned company, also operates modern truck lines in 22 Eastern and Southern states.

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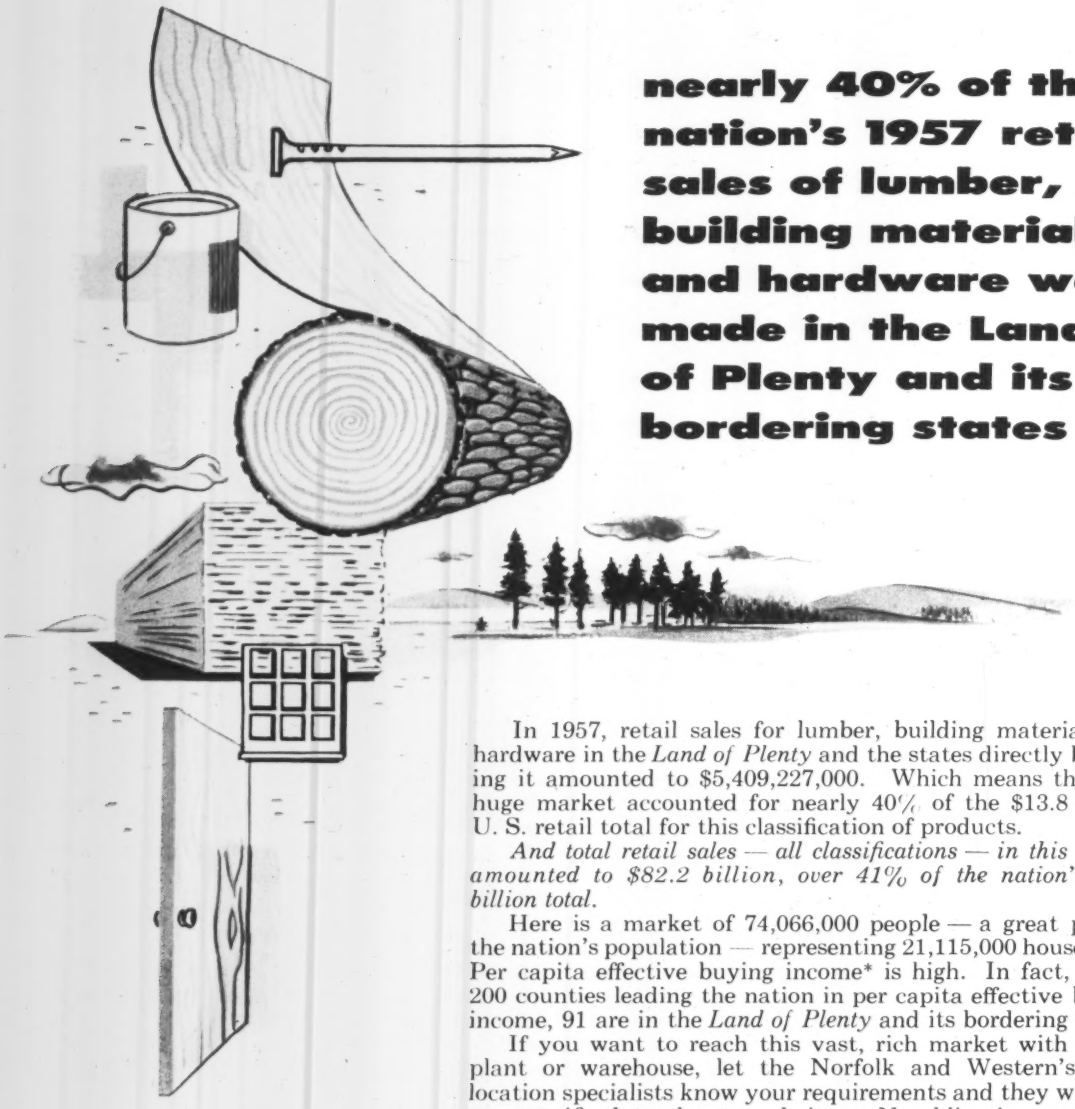

nearly 40% of the nation's 1957 retail sales of lumber, building materials and hardware were made in the Land of Plenty and its bordering states . . .

In 1957, retail sales for lumber, building materials and hardware in the *Land of Plenty* and the states directly bordering it amounted to $5,409,227,000. Which means that this huge market accounted for nearly 40% of the $13.8 billion U. S. retail total for this classification of products.

And total retail sales — all classifications — in this market amounted to $82.2 billion, over 41% of the nation's $200 billion total.

Here is a market of 74,066,000 people — a great part of the nation's population — representing 21,115,000 households. Per capita effective buying income* is high. In fact, of the 200 counties leading the nation in per capita effective buying income, 91 are in the *Land of Plenty* and its bordering states.

If you want to reach this vast, rich market with a new plant or warehouse, let the Norfolk and Western's plant location specialists know your requirements and they will give you specific data about good sites. No obligation, and your inquiry will be kept confidential.

All figures from Sales Management's Survey of Buying Power.

* Disposable income available for spending.

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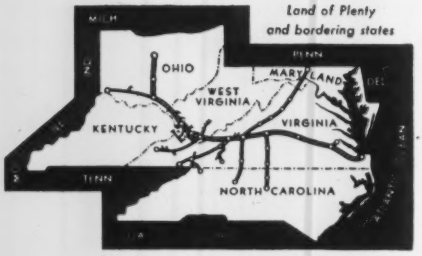
L. E. Ward, Jr., Manager
Industrial and Agricultural Dept.
Division DR-838 (Phone DIamond 4-1451, Ext. 474)
Norfolk and Western Railway
Roanoke, Virginia



Norfolk and Western RAILWAY

For quick, competent assistance on shipping problems—talk with the N&W freight traffic Sales and Service representative nearest you . . . in one of 39 key cities across the U. S.

INTEGRATING YOUR TRANSPORTATION

reduce the cost of distribution as a whole.

Traffic managers are being made responsible to top sales or distribution management, rather than to production superintendents, as was common in the past.

Reduced costs increase profits

The improved status of traffic management provides opportunities for important savings. For instance, in a multi-plant company that produces industrial equipment for railroads and construction, the top traffic executive gained more secure control over transportation at the individual plant level by demonstrating to top management the savings that are possible.

On a visit to one of the company's twoscore plants, where day-to-day decisions had been left in the hands of shipping supervisors who reported to the plant production superintendent, the traffic executive from headquarters discovered that the plant was losing approximately $25,000 a year by not consolidating shipments so as to take advantage of truckload rates.

After sitting down with the plant supervisors, he learned that the plant superintendent had established the rule that the shipping dock must be shipshape and free of any material after each shift. This, of course, made for a nice, tidy-looking plant, but resulted in frequent pick-ups of less-than-carload lots.

The general traffic manager of a large textile company describes traffic's increased recognition in his company: "We had had numerous traffic managers, including our purchasing agent, our wool and fiber buyers, and our individual plant managers. But now they all come to us."

Specifically, traffic department's enhanced status has boosted the manager to a higher spot on the management totem pole and has provided higher salaries and bigger operating budgets for the department. Consequently, many traffic managers report that they are able to attract and hold more capable traffic specialists and do a better job for the company.

But sometimes this recognition is not an unmixed blessing. One traffic manager declares: "I trained an assistant to the executive vice president who now takes credit for all the improvements that the traffic department had been pushing for years, but which he had blocked before his traffic training. However, the traffic department now has a bigger budget."

Nevertheless, traffic management hasn't as yet reached equal status with sales and production in most companies. Indicative of the long road yet ahead for traffic is the comment of a major producer of office furniture. He says he's certain that top management has come to recognize the importance of transportation—for his desk was recently moved from the shipping room into the general office!

Improvement in status

In 80 per cent of 211 companies newly surveyed by DUN'S REVIEW, top management has given increased recognition to the importance of transportation in the past few years. Clearly, the ability of transportation management to produce cost savings in the face of rising costs of distribution is opening the eyes of top management across the nation. For years, top-echelon attention has been directed toward achieving economies within the plant, but many companies

About the Survey

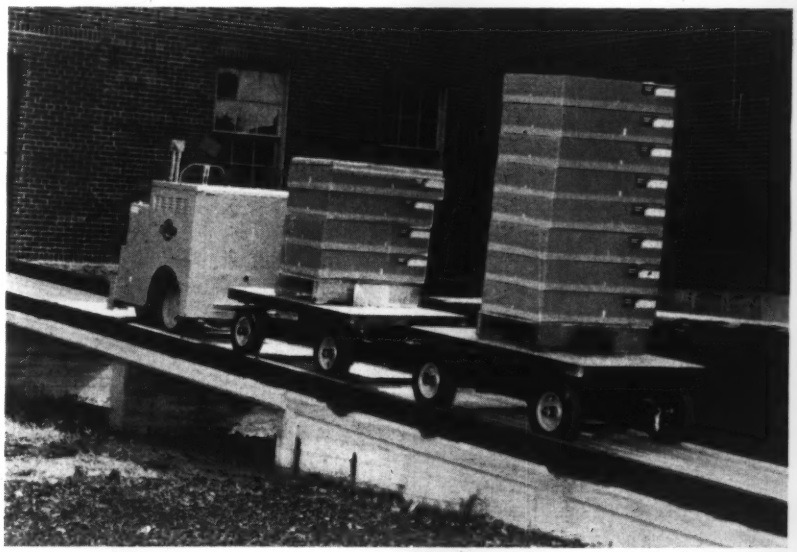
This new DUN'S REVIEW survey of traffic management is drawn from detailed replies to a four-page questionnaire completed by 211 companies that ship goods. Most of the replies—195—came from manufacturers. These fell into the following size groups:

1958 Sales Volume	Manufacturers
Under $1,000,000	10
$ 1,000,000 to $ 4,999,999	46
$ 5,000,000 to $ 9,999,999	22
$10,000,000 to $24,999,999	30
$25,000,000 to $49,999,999	22
$50,000,000 to $99,999,999	24
$100 million and over	41

Of these 195 manufacturing companies, 26 were makers of chemicals and allied products, 21 were food and kindred products manufacturers, nineteen were paper and allied products producers, sixteen were nonelectrical machinery manufacturers, and fifteen were fabricated metal products manufacturers. Sales in the group ranged from less than $1 million to more than $2 billion; the majority were $10 million and up.

The eleven wholesalers have volumes ranging from about $1 million to $50 million. The five remaining companies have sales ranging from about $5 million to more than $100 million.

Most of the questionnaires were answered by the top traffic executive—vice president in some companies, traffic manager in others.



OPERATORLESS TRACTOR *pulls loaded pallets of merchandise to outgoing carrier at the Beckett Paper Company, Hamilton, Ohio. The tractor is guided by electronic impulses from wires embedded in the surface of the route. It stops automatically at designated spot on loading platform or in warehouse. This unit replaced street-delivery truck formerly used.*

now are nearing the point where no further in-plant economies can be achieved without major expenditures for new equipment. However, a modest investment in a traffic department budget often can produce thousands of dollars in savings.

For instance, an agreement between traffic and sales on shipment sizes can result in savings that may be as large as the profit itself on the shipments. And getting the advice of traffic on the kinds of packaging to be used for various shipments can prevent rate penalties being assessed because the packaging doesn't meet Interstate Commerce Commission requirements.

Among the surveyed companies, top management's new recognition has been reflected in many ways. But, generally, it has resulted in an upgrading of the traffic manager's job by making him a regular participant in top management meetings or by requiring other departments to clear with him all matters in which he might have something to offer.

A voice in policy making

In about a dozen of the surveyed companies, the chief traffic executive actually has become a part of top management and has gained a voice in company policy making. But more commonly, the traffic manager of a manufacturing company has been made a member of such key committees as operations, product development, and budgeting.

At the same time, the responsibilities of traffic managers are broadening to include more than just rates and routes. In some cases, they are exchanging the old title for new ones like transportation director or distribution manager. Thomas Kimmerly, the general traffic manager of Burroughs Corp., who reports directly to a vice president, is chairman of the corporate packaging committee and also chairman of a special group that is studying the over-all problem of product distribution and improved customer service.

The expansion of responsibility has been matched by staff growth in many of the surveyed companies. More specialists in various phases of transportation are being employed today, and the directors of traffic are encouraging their employees to upgrade themselves through traffic school training. To attract college graduates to this field, some companies are abandoning the traditional job titles.

In the United States Gypsum Company traffic department in Chicago, there are no longer any "clerks." The old "rate clerk" is now a "rate specialist" or "rate auditor." At the In-

Two-Way Radio Speeds Shipments

Warehouse control clerk for Federal Pacific Electric Company, Newark, N.J., checks the master chart which indicates goods on hand and space available for storage before issuing instructions to fork-lift truck driver by means of two-way radio set-up. Drivers handle both incoming material (lower left) and outgoing products (lower right). Radio communication permits quick, accurate disposal of goods in warehouse and trucks. Control clerk and six drivers handle 250,000 pounds of products a day.

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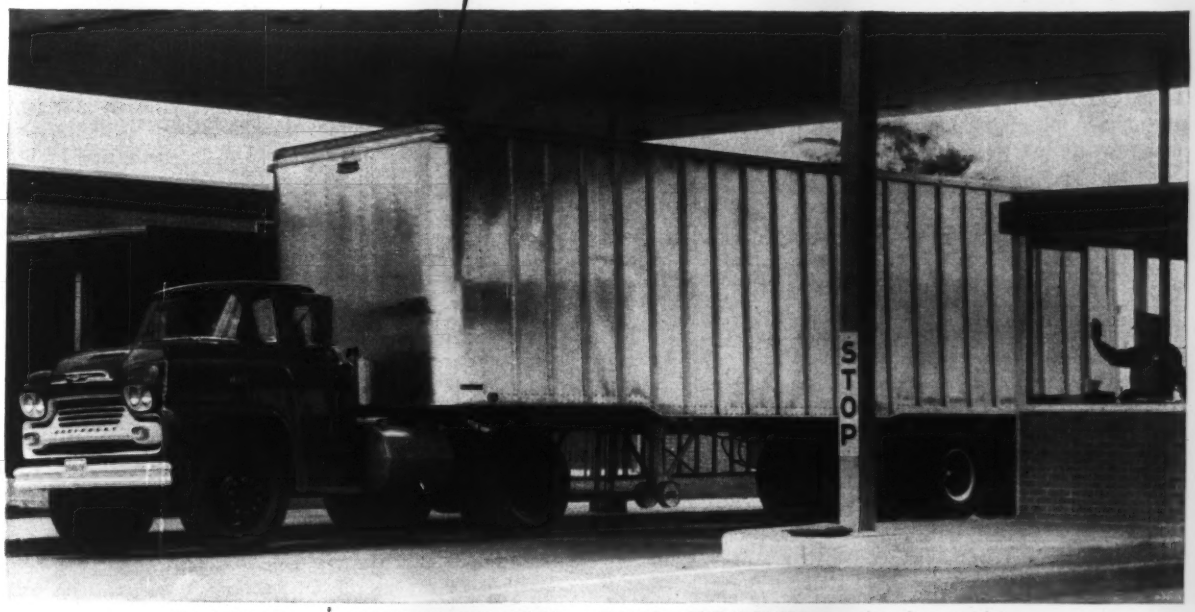

ALL MODELS and SIZES—SINGLE UNITS or FLEETS—CHEVROLETS or other fine trucks.

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NATIONALEASE is the Preferred Service, because it's *full*-service truckleasing from *nationally* experienced management. Yet no "home office" overhead, no remote controls from distant headquarters without regard for local costs and conditions.

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NATIONALEASE is the brand of service supplied by affiliates of National Truck Leasing System – the National Truck Leasing System is the authoritative, pioneer organization exclusively engaged in providing full-service truckleasing to American industry.

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23 E. Jackson Blvd., Suite: D-6 Chicago 4, Illinois

ternational Minerals & Chemical Corp., Skokie, Ill., the title "clerk" also has gone the way of the high stool.

Along with the upgrading of transportation management, there has been an important change in the traffic department's place in the corporate structure in the past few years. Increasingly, top management is coming to recognize the benefits of centralized control of both policy and procedures in transportation. Among the 152 decentralized, multi-plant companies in the survey, 112 report that the traffic function is controlled from company headquarters. And 27 of these report that this new centralized set-up is a distinct break from the previous procedure by which each plant was left fully in control of its own traffic matters.

The trend toward centralized traffic management, or at least coordinated management, is evident at a major chemical company which has saved several million dollars in transportation costs in the past year through a new program for integrating its physical distribution. The corporation functions through a number of manufacturing divisions, which are virtually independent operating companies. It takes in thousands of different raw materials and ships out hundreds of products.

Before the program, each division shipped its own products without attempting to coordinate shipments with other divisions. Now distribution people from each division are

New Survey Reveals Split in Management Thinking

Top management and traffic executives in industry discuss the present status of traffic management—and show a significant disagreement on regulatory matters.

TRANSPORTATION management is getting increased attention from academic circles as well as from top management in industry. Large companies now generally prefer college graduates as traffic department trainees, and it seems safe to say that, as the traffic manager's job is upgraded, the emphasis on academic qualifications will grow.

New light on the subject of educational needs in the field of industrial transportation comes from a recent nationwide survey conducted by Professor Robert A. Nelson of the College of Business Administration, University of Washington (in Seattle), and graduate student William Berridge among 500 top management executives and 500 traffic managers.

These are some of the findings of the survey, which covered manufacturing companies with more than 300 employees and brought a return of 40 per cent from the 1,000 companies polled:

- Although only a fourth of the traffic managers have a college degree, three-fourths insist that one would be of value. Top management indicates that the possession of a degree would be a criterion in choosing a new traffic manager.
- Although almost half the traffic managers have at some time been employed by a carrier, top management asserts that it does not normally look to a carrier to staff the traffic department.
- Top management in 39 per cent of the surveyed companies places the importance of traffic on a par with the sales and production departments.
- The caliber of traffic managers is considered by top management in most companies (81 per cent) to be up to or above that of other department heads. But about 40 per cent of top management feels that traffic managers are not alert to the latest developments and problems in the business world outside of transportation. And 44 per cent stated that traffic managers tend to reflect the thinking of carriers in matters of transportation policy.
- Eighty per cent of the traffic managers feel they have a free hand to organize and operate their departments efficiently, and 62 per cent believe that top management is sufficiently aware of the importance of the traffic function.

Although the purpose of the survey was to gather information about the training, background, and status of traffic executives, it has turned up a by-product finding of even greater immediate importance: a pronounced lack of harmony in the thinking of top management and their traffic managers.

On matters of public policy on transportation, the traffic managers appear closer to the carriers with whom they deal and with whom they often have closer contact than with their own top management. In addition, the survey has turned up a correlation between the traffic managers' attitudes on public policy and their own prior employment.

The more or less official position of the railroads today is that transportation is too regulated. The organized motor carrier industry has generally thrived under regulation and consequently favors it. Despite their advocacy of inter-modal competition (between different types of carriers), the railroads share with the truckers a marked distaste for its more hectic intra-modal forms and prefer to retain the Interstate Commerce Commission.

According to Professor Nelson, these positions are consistently taken by the former carrier employees now on industry's payroll as traffic managers, with the responsibility for buying transportation from their one-time employers.

Top management is less favorably disposed toward regulation than are many traffic managers; 70 per cent of the top executives feel it is too highly regulated, compared with 41 per cent of the traffic managers with motor carrier experience and 53 per cent of those with no carrier experience. But ex-railroaders were 75 per cent against regulation.

In general, top management seems more inclined to rely on free enterprise in transportation than do traffic managers, especially those who have been employed by carriers. Says Professor Nelson: "It seems that the obvious conclusion to be drawn from the survey is that either top management is inadequately informed in this field, or traffic managers are unduly influenced by the carriers. Whichever may be the case, it has real significance for the future shaping of public policy in transportation."

If traffic managers are more influenced by carriers than by top management, it is certainly understandable, for in many companies it is the former who come to pat the traffic manager on the back and tell him what a fine job he is doing.

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working together to coordinate methods and consolidate shipments.

Decentralized companies with centralized traffic management are discovering that one of the most valuable ways to maintain control over transportation procedures at the plant level is through the use of a company-developed traffic manual. Sixty-three of the surveyed companies are now using traffic manuals. Although ten of the surveyed companies have had traffic manuals for more than ten years—one manufacturer reports having had one for 30 years—most were developed during the past five years. Eight were developed just last year, and thirteen other companies are now working on manuals.

Developing a standard manual

The typical traffic manual translates the technical jargon of rates, ratings, tariffs, and classifications into language that even the neophyte shipping clerk should be able to grasp with a little effort.

The manual used at Burroughs Corp. runs to more than 100 pages and is broken down into eight sections. These cover: policy and organization; rate structure; servicing the shipment (routing, tracing, claims, and so on); packaging (and materials handling); administrative procedures; new bulletins; specialized methods and procedures (for individual divisions); and the index. The looseleaf format of the manual makes it easy to keep it up to date on new developments in this fast-changing field.

Of course, there is considerable variation in the contents of traffic manuals. One manufacturer, for example, includes only rate information, while many, like the Mennen Company, clearly define the responsibilities and procedures for each traffic and shipping job. This is immensely valuable in breaking in new employees or in carrying on when regular employees are not available.

Knowing what to do

Other companies report that their manuals cut down correspondence and long-distance calls between plants and headquarters. Some companies furnish copies to their sales departments to help guide salesmen in their efforts to meet competitive prices.

The distribution manager of a large producer of consumer goods, which has had a traffic manual for ten years, says: "We really couldn't get along without it, for shipping costs would spiral upward, and our service would fall apart."

At International Business Machines Corp., which has had a traffic manual for two years, manager of traffic coordination Edward Maney says: "Our manual spells out our responsibilities at various levels and removes any possible confusion about what each function involves. It is recognized as the authority for procedures, as well as for the interpretation and administration of policy."

Many traffic managers are developing annual reports for top management—reports that demonstrate that the department in charge of transportation not only pays its way, but returns a substantial profit. A prize example is the traffic department at United States Gypsum Company, Chicago, which had an operating budget last year (not including freight charges) of $400,000 and chalked up total savings of $1.2 million, producing a net profit of $800,000.

Trimming transportation costs

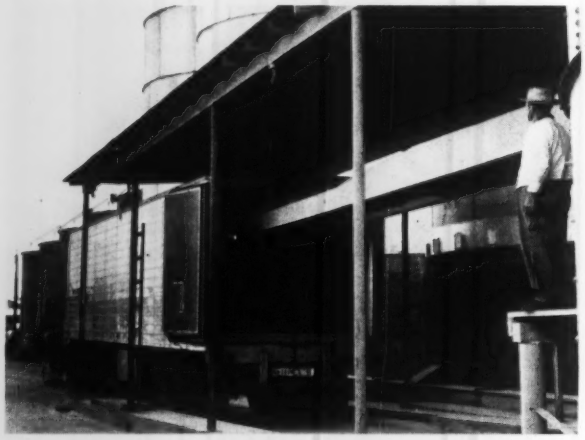
Companies are using a wide variety of methods to rack up savings in their transportation operations. Most frequently listed are:

- Consolidated shipments
- Use of shippers' associations
- Improved routings
- Precise classifications
- Private carriage
- Improved auditing of freight bills
- Rate negotiation
- Securing of commodity rates volume discounts)

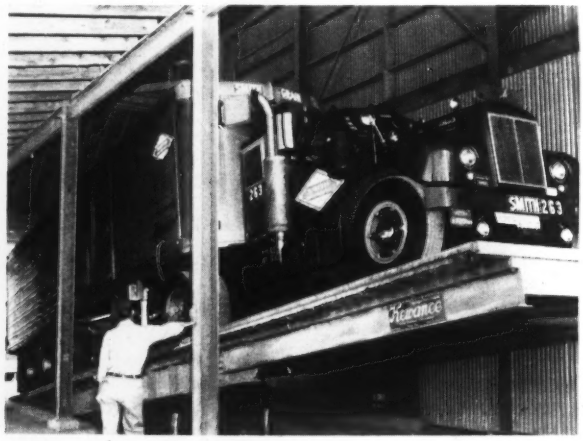
Traffic manager E. E. McLane of U.S. Rubber describes his efforts to trim transportation overhead:

> In the past ten years, we have cut transportation costs from 3.01 cents to 2.02 cents out of the sales dollar. Our consolidation program, which increases the size but reduces the frequency of shipments, produces savings of $150,000 a year out of a total freight bill of $2 million. By demanding better scheduling from sales and purchasing, we were able to reduce our demurrage bill by $13,000. If we audit our freight bills, we pick up $75,000. In fact, our total savings have amounted to about 20 per cent of total company profit rate.

The surveyed companies are about

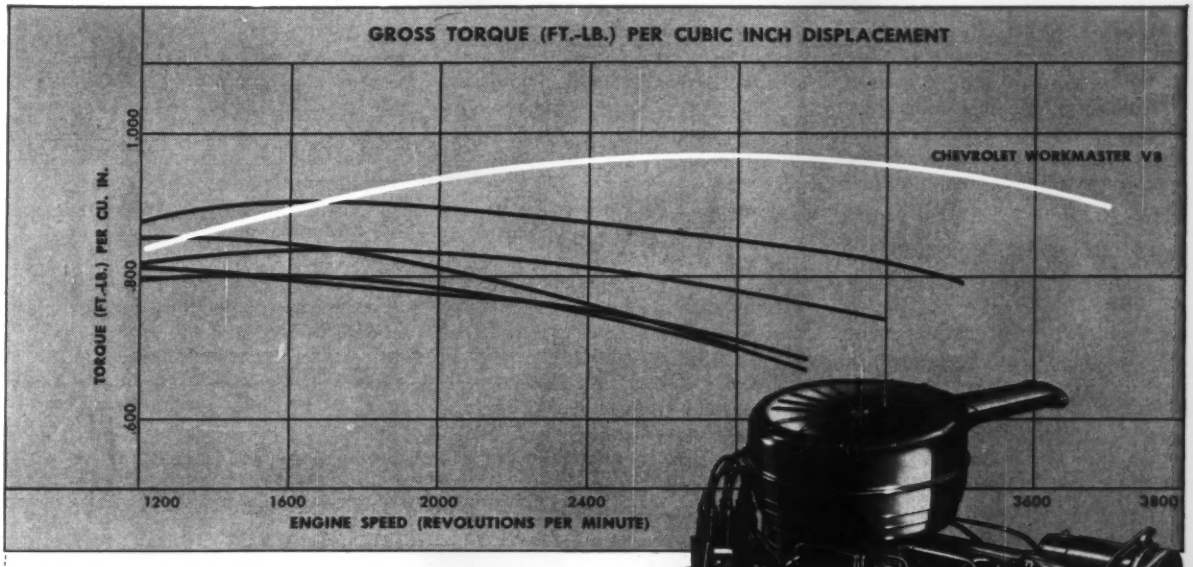


LONG CONVEYER ARMS *reach directly into tractor-trailers at the Smith Grain Company, Limestone, Tenn. The system makes quick work of the job of loading granular materials.*

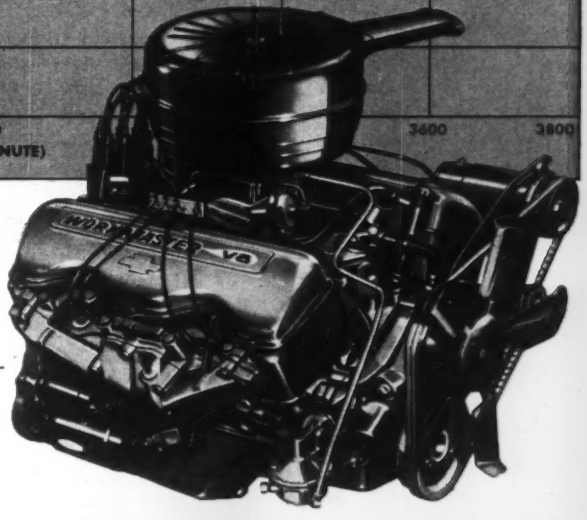


HYDRAULIC PLATFORM *tilts incoming truck to make gravity work for fast unloading, too. Grain spills out the back. The platform was built by Kewanee Screw Conveyor Corp., Santa Clara, Calif.*

It's torque that beats tough jobs, and this engine has it to spare!



Proof that the Workmaster V8 puts out plenty of torque. The white curve above shows that the Workmaster provides high torque throughout the *entire range* of operating speeds. The black curves accurately represent the torque output of typical heavy-duty 6-cylinder engines of between 330 and 390 cubic inches of displacement. Curves demonstrate actual torque efficiency, based on gross ft.-lbs. of torque per cubic inch of displacement.



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evenly divided on the use of outside audit bureaus for auditing freight bills. Although half the companies use them regularly to recover expenditures made in error, the others either do their own auditing or think the entire effort doesn't justify the time involved.

The companies that do it themselves prefer not to reveal customer lists and other information to outsiders, and some wish to avoid impairing relations with carriers.

Cutting costs with methods analysis

Other substantial savings also are being achieved. The director of transportation for a rubber-products manufacturer reports that his company is chalking up savings of $335,000 a year in its loading and unloading operations through the application of methods analysis.

ON THE *drawing boards is this cargo version of the Convair jet airliner that would swing open at the tail for fast loading and unloading. The plane manufacturer claims that it would produce ton-miles at a level competitive with trucks. The Air Force is interested in craft of this type.*

He points out that ten years ago the shipping department employed 74 people who worked an average of 60 hours a week. Today the same volume of shipments is being handled by 23 people and without any overtime. This has been made possible by better methods of handling, more equipment, and improved scheduling. Truck loading time has been cut from two and a half hours to eighteen minutes, and a record of every truck is kept to see how much time is used for the job.

All transportation is, in one way or another, materials handling, and it is not surprising that management is increasingly aware of the necessity for integrating these and other related activities. Already, roughly one traffic manager in five bears some responsibility for the choice of materials handling equipment for shipping and receiving operations.

And, in addition, 50 per cent are consulted on the choice of such equipment. However, that leaves about a third who aren't even asked for their advice—advice that often might save thousands of dollars, for the method of loading has an important effect on demurrage cost, dunnage, packaging, and scheduling of the shipments.

Tips for improved traffic

Many of the surveyed companies are pressing ahead to integrate materials handling and shipping methods in order to achieve a smooth, low-cost flow of materials from the production line to the carrier's vehicle. Conveyer belts and other equipment are being used wherever possible to achieve an uninterrupted flow of material from the plant to the truck.

But despite these efforts, this area still offers immense possibilities for cost savings. Many traffic managers complain that too frequently the shipping area is the stepchild in top management's plans for the layout of new plants. Generally, the focus of attention continues to be in production.

Here's a rundown of the things that the surveyed traffic executives recommend doing to score improvements in the shipping area. In many instances, they are already paying off for survey respondents.

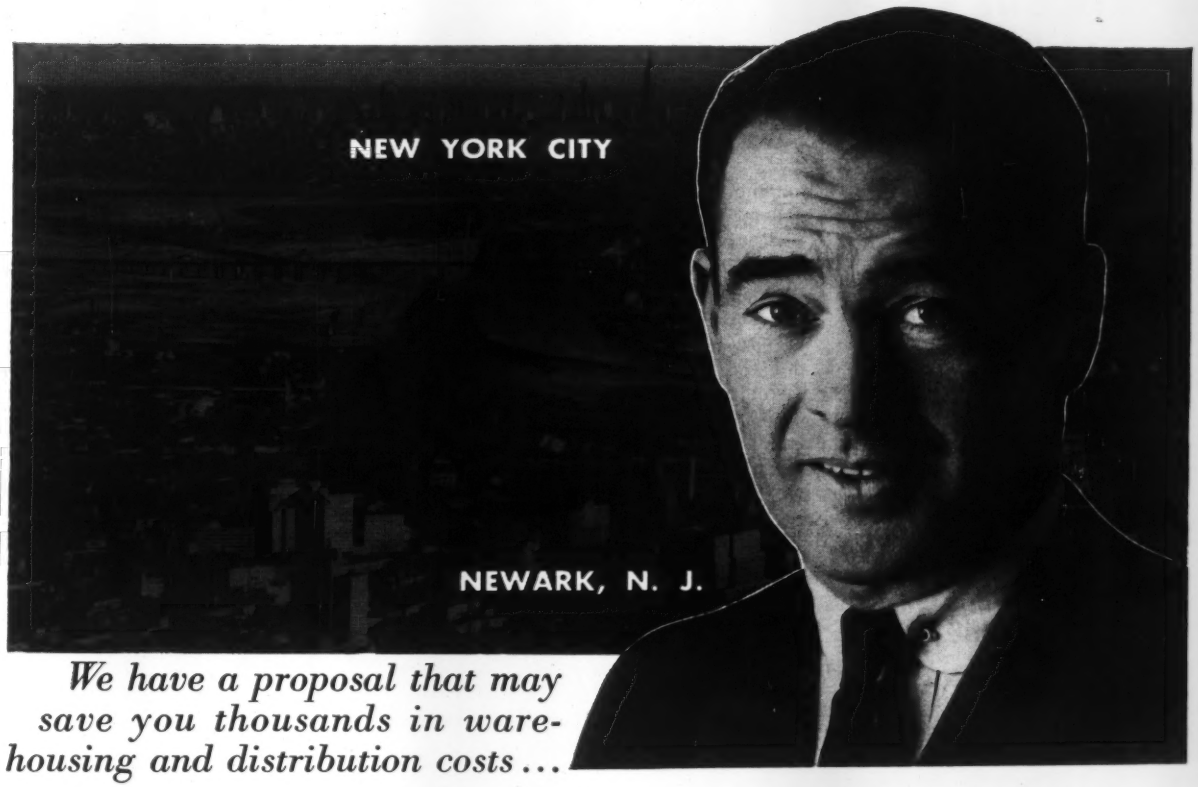
- Set up a conveyer system to segregate and sort shipments. The use of electronic memory units for sorting shipments as they move along conveyer belts is an important step forward in producing a smooth flow of shipments. Large wholesalers are profiting from the good use of such devices in making up their shipments for individual retailers.
- Designate one executive to be responsible for external materials handling, packing, shipping, and transportation, and have him sit in on product planning, production scheduling, and plant layout committees—or at least work out better coordination among these functions.
- Develop unitized loads as much as possible in order to reduce manual handling to the minimum.
- See if automatic palletization, combined with powered roller conveyers, is suitable for your operation.
- Work with carriers toward the goal of free movement of disposable pallets. This would speed up unloading and so provide carriers with more boxcars and trailers at little expense.
- Work with your volume customers

Putting Wings on Shipments

Management's increased awareness of the importance of physical distribution has been a boon to air freight business in the past year or two. For when all the elements involved in getting goods to market—packaging, warehouse expense, insurance, inventory investment, damages—are considered together, the decision to take to the air can frequently be justified. Although most air shipments are still made to meet emergencies, a DUN'S REVIEW survey indicates that about 8 per cent of the companies using air transportation do so for their regular shipments. Another 9 per cent have already made changes in their distribution systems to fit the jet age, and 11 per cent are now planning for changes in the future.

John C. Emery, Jr., vice president of Emery Air Freight Corp., looks for a tenfold increase in the users of air freight during the next five years as the use of jets is expanded. He points to the U.S. Air Force's changeover to air transportation to keep world-wide bases supplied as an example of the important savings that can be realized by keeping high-value inventories low and obsolescence of parts to a minimum.

Back in 1950, the Air Force was buying about five spare engines for every one installed in planes. Now, only one spare is bought for every five installed, since air freight fulfills the function of far-flung warehouses of spare engines. This and other savings in spare-parts inventories and packaging saved taxpayers more than $100 million last year.



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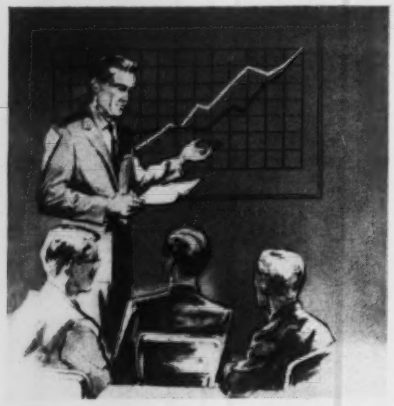

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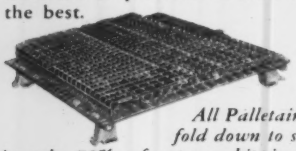

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for the joint use and ownership of pallets.

- Cooperate with customers to develop standardized package sizes for easier loading and unloading.

Like several others, the traffic manager of the Mennen Company thinks that the ideal solution lies in the development of low-cost containers that could be loaded automatically as goods come off the production line.

The containers could be used for storage if need be, and, when shipped, they would move from trucks to railroads or ships without being reloaded.

Handling shipments with machines

Industry still faces a big job in mechanizing the loading and unloading of shipments. The use of more and better materials handling equipment in shipping and receiving is enabling some companies to achieve real economies in moving goods from the production line to the carrier's vehicle. For every time goods are handled manually at this point, some of their value is figuratively rubbed off.

Although 21 companies report that their loading and unloading operations are better than 90 per cent mechanized, the typical degree of mechanization turned up by the survey is 50 per cent. And for some companies, the percentage is much lower. A major producer of fiber containers reports that his operations are only 5 per cent mechanized.

The companies that have made the most progress in this area are those producing bulk products like chemicals or cement. Eight of the surveyed companies—all of them in these industries—report that their loading operations are completely mechanized. (For detailed information on the new techniques in cement handling see DUN'S REVIEW, June 1958, page 80.)

To push their degree of mechanization as high as possible, the surveyed companies are making sizable expenditures for materials handling equipment. For instance, IBM made a sizable expenditure last year and has mechanized about 70 per cent of these operations. Burroughs Corp. also put through a major expenditure and now reports that only 20 per cent of these operations remain to be mechanized.

Among the surveyed companies, the median expenditure for materials handling equipment for this purpose is about $25,000.

Shifting emphasis on means

The surveyed companies are planning important changes in their transportation methods over the next five years. The change most frequently mentioned is the introduction of private carriage. About 15 per cent of the companies are planning to set up their own trucking operations during that time.

Here are the other changes that many companies are planning:

- Air carriers will be used more.
- The trend to centralized traffic management will continue.
- Unitized loads and bulk shipments will be the goal even in the face of customer insistence on tight inventory control.
- Piggyback and containers will come into common use.

APPLIANCES *are delivered directly to the point of use by moving vans which pick them up at the plant door. Although the rates are higher than for most other surface carriers, companies like Westinghouse, General Electric, and Welbilt Corp. report important advantages: faster delivery, one-carrier responsibility and complete follow-through, elimination of packaging, and reduced damage. Padded-van service is also being used for computers and delicate electronic equipment. North American Van Lines reports that about 20 per cent of its volume comes from such shipments.*

- Strenuous efforts will be made to cut down manual handling.
- The integration of warehousing, shipping, and materials handling under a single managerial control will spread.

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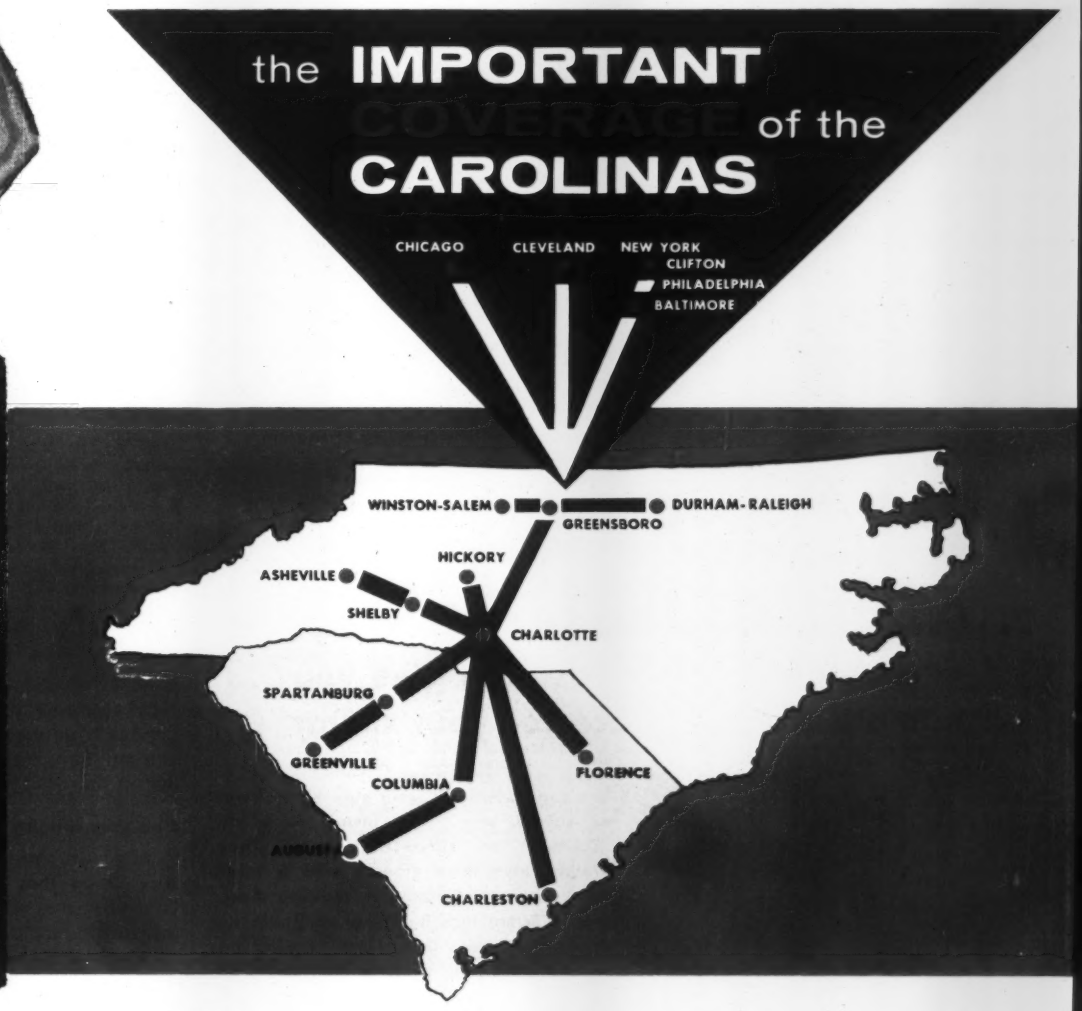

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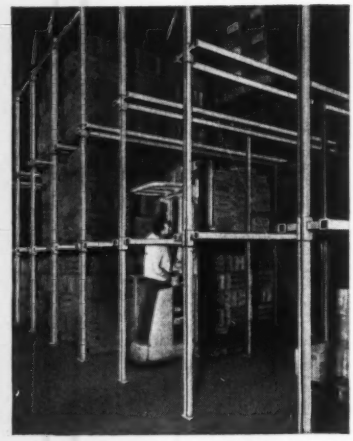

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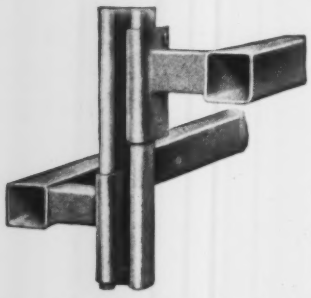

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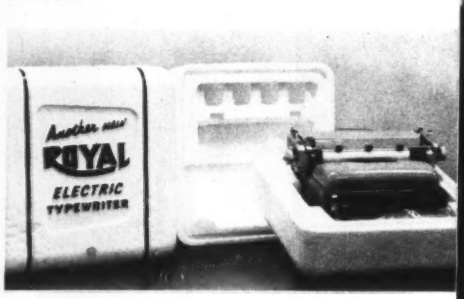
1965? The people who know transportation best—industrial traffic managers—look for more private truck fleets, greater use of piggyback, increased containerization and use of air freight, and integrated or coordinated service among various types of carriers.



PLASTIC *shipping cases have now been adapted to typewriters by Royal McBee Corp., Hartford, Conn. Made of expanded polystyrene, the cases have a higher initial cost but permit direct shipment to customer, cutting down on handling and transportation costs and delivery time. Gross weight of the new-packaged machines is 10 per cent less than the old corrugated-box package.*

A few even envisage the use of guided missiles for the delivery of freight. In fact, the Air Force is working on a cargo-carrying missile that can put a payload down without damage in the desired spot.

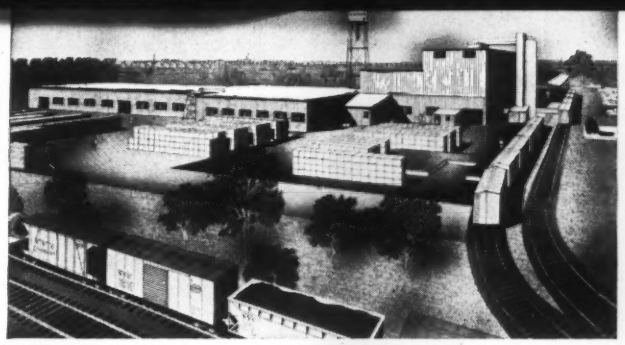
Changes among carriers

Most are hopeful that the regulatory snags that are now hampering transportation will be entirely worked out in the next five years.

The prediction of Carl Running, general traffic manager of Ekco Products Company of Chicago, reflects the thinking of many of his confreres in other companies. He says:

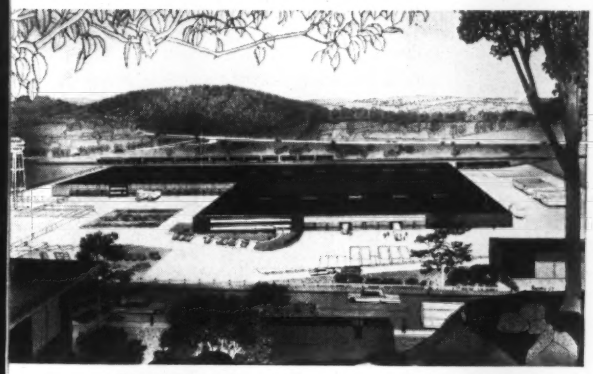
The railroads will be handling increased long-haul freight, with most tonnage moving via trailers on flatcars. Motor carriers will be handling increased short-haul freight operating within 400 miles. Railroads will expand their subsidiary motor carrier service in connection with their long-haul operations. All modes will have improved integration of movement for low-cost flow of traffic. Industrial companies will further recognize that distribution costs require top management direction and attention.

Although many shippers would like to see more coordination among vari-



"JUST WHAT WE NEEDED" replies The Flintkote Co. to the Central's suggestion for a new Insulrock building products plant in North Judson, Ind.

"SUITS US JUST FINE" says International Harvester of the site recommended by the Central for a new Columbus, Ohio parts depot



"CHECKS OUT O.K." says Grand Union of Mt. Kisco, N.Y. site for new metropolitan depot located with help of the Central

"FINE LOCATION" says Rockwell-Standard of Mishawaka, Ind. site for bumper plant found with the Central's help

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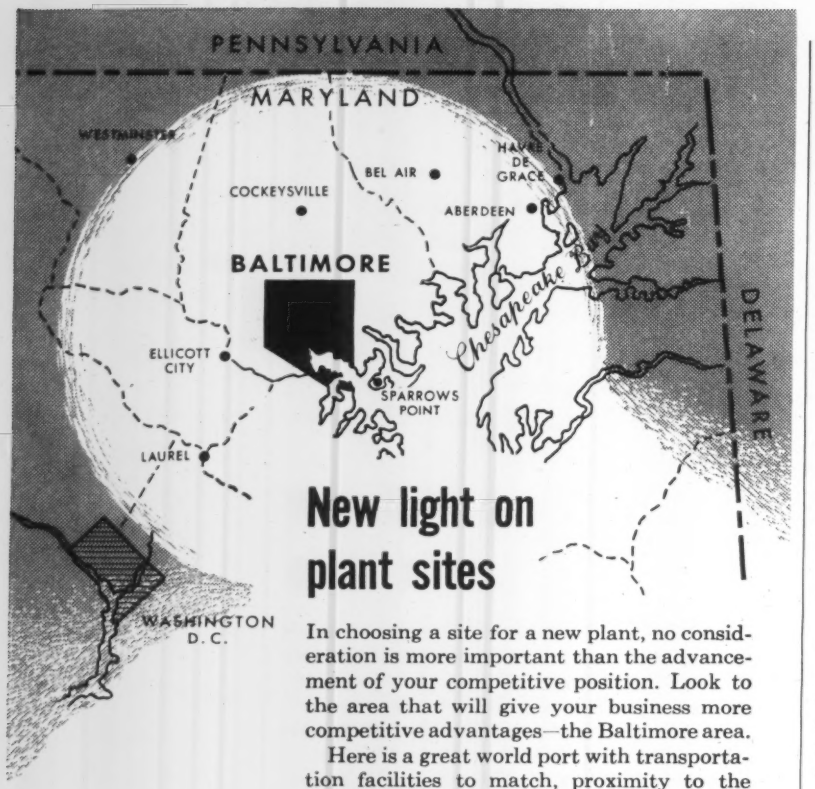
11. Hudson River Valley
12. Indianapolis
13. Lorain-Elyria-Sandusky
14. New York City Area
15. Northern Indiana
16. Rochester
17. St. Lawrence Seaway
18. Syracuse
19. Utica
20. Western Mass.
21. Youngstown
22. Industrial Parks in Ill., Ohio, N.Y., Mass., and Mich.

Large or small, there's a "Central" location on the modern 11,000-mile rail network of the New York Central System that meets your plant requirements.



New light on plant sites

In choosing a site for a new plant, no consideration is more important than the advancement of your competitive position. Look to the area that will give your business more competitive advantages—the Baltimore area.

Here is a great world port with transportation facilities to match, proximity to the nation's greatest markets, ready availability of raw and semi-finished materials, good labor, good living conditions, ample electric power and natural gas . . . plus special features you will find nowhere else along the Eastern Seaboard.

Let us make an individual Plant Location Study for you . . . in confidence and without obligation. It will show you clearly and concisely the competitive advantages Baltimore offers your particular business. Write, wire or phone our Industrial Development Service, 1106 Lexington Building, Baltimore 3, Md.

Give your business

BALTIMORE COMPETITIVE ADVANTAGES

BALTIMORE GAS and ELECTRIC COMPANY

Serving one of America's great industrial centers

Baltimore Gas and Electric Co. 1106
Industrial Development Service, Baltimore 3, Md.
I'm interested in your Special Plant Location Study.
Please have your representative contact me.
Name.....
Title.....
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City.....State.....

INTEGRATING YOUR TRANSPORTATION

ous types of carriers, their immediate concern is that carriers should improve their handling of information. Shippers intensely dislike being in the dark about the whereabouts of a particular shipment.

Says the traffic manager of a metals company in Maine, "My biggest gripe is not getting prompt tracing information from carriers, and probably the worst of all is not getting any reply."

Here are other representative gripes from the 211 surveyed shippers about the service provided by carriers:

"Carriers should develop a willingness to depart from tradition, from the old idea of business as usual. They need more imagination and aggressiveness. They should be receptive to new ideas."—*Distribution director of a large producer of consumer goods.*

"Carriers need better equipment, more dependable service, and a better appreciation of our distribution problems."—*General traffic manager of a building materials producer.*

"They should provide a more consistent service—not necessarily a faster service but rather a consistent one to enable us to have a better scheduling of our shipments."—*Traffic manager of an electronics equipment maker.*

"Carriers should notify us of any delay in route so that we can tell our customers accordingly and so preserve our good relations with them."—*Refrigerator producer.*

"I'd like fewer solicitation calls unless the carrier representatives have something new and advantageous to offer. There should be more attention to our service requirements—such as prompt pick-ups and quicker tracing and less attention to luncheon invitations and conversations about sports."—*Major producer of appliances and electronics equipment.*

Back-scratching with carriers

Thirty-eight of the 211 surveyed companies report that their freedom of choice among various carriers is presently hampered by the reciprocity factor. And about a dozen others say that reciprocity has a definite bearing

on their choice, even though it isn't the decisive consideration.

Most of these consider reciprocity simply as an everyday fact of business life. Says one traffic manager, "We buy and sell to railroads, so naturally we reciprocate in our routing." Other companies favor railroads, not for what they sell to them, but rather because of their dependence on them for the inbound movement of raw materials.

A producer of china favors railroads in routing outbound shipments for this reason and also because it wants to cultivate the market for china in railroad diners.

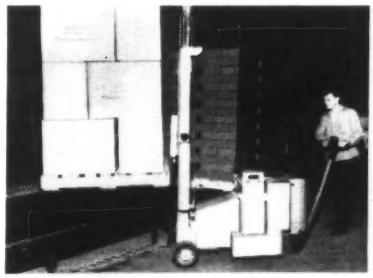
A major producer of electrical equipment has worked out a mathematical formula for apportioning its shipments among competing carriers. Says the general traffic manager:

> When cost and service among competing carriers are equal, it is only fair to divide our available business according to the carriers' purchases from us. We use as a basis the past five years' volume of purchases from our company, versus the value of our traffic to the carrier involved.

Finding the total cost

About one-third of the surveyed companies are aware of the importance of breaking down the cost of physical distribution—for, as one transportation executive remarks, "We can't begin to control something until we can arrive at a firm definition of what we are attempting to control."

However, there are many difficulties involved in arriving at a total figure for the cost of getting goods from the end of the production line to the customer. Both accounting and trade practices vary. Generally, the freight bill is paid by the supplier,



BY COMBINING *roller conveyers and fork-lift trucks, the Bissell Carpet Sweeper Company, Grand Rapids, Mich., says a full trailer can be loaded or unloaded in just five minutes. Trucks have matching roller conveyers mounted permanently in the floor. Full trailer-load is easily pushed into truck.*

NEW

RAYMOND

HEAVY-DUTY TRUCK

Outperforms

many counterbalanced trucks

Combining the operation of heavy counterbalanced trucks with narrow aisle trucks, the Raymond Heavy Duty outperforms many counterbalanced models and all narrow aisle equipment! Due to short length, combined steerable wheels and driving wheels, full 90° right angle turning and tiering is possible in aisles as narrow as 7½ feet. Result: more space for storage or production.

Two husky 24-volt motors power two large, steerable, all-gear drive wheels . . . produce positive power for long hauls, up ramps with full load, and for outdoor use . . . real power for rapid lift or lower. Four speeds forward or reverse. Two-wheel hydraulic brakes.

The RAYMOND CORPORATION
4690 Madison Street,
Greene, N. Y.
Send Heavy Duty Truck Bulletin

NAME TITLE
COMPANY
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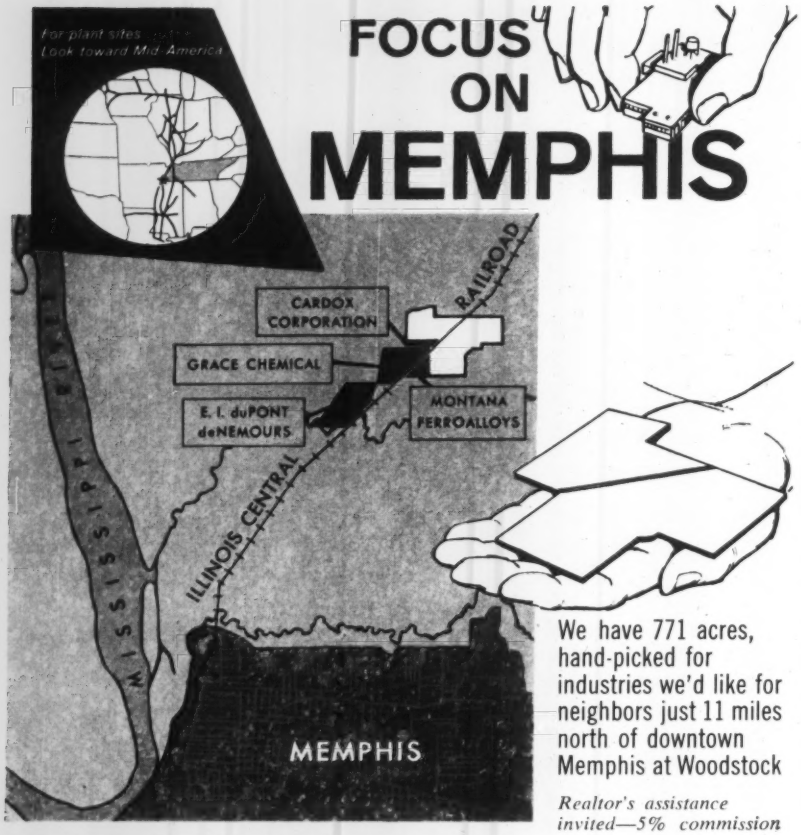

We have 771 acres, hand-picked for industries we'd like for neighbors just 11 miles north of downtown Memphis at Woodstock

Realtor's assistance invited—5% commission

This is the finest industrial property we could locate in the Memphis area. We acquired it for the benefit of substantial industries seeking locations along our main line between Chicago and New Orleans.

Here your neighbors will be folks like duPont, Grace Chemical, Cardox and Montana Ferroalloys. You'll find abundant natural gas, low-cost electric power, fresh water and the best of transportation.

Why not let us furnish you with preliminary information? Then with complete details, all in confidence. Write or phone J. S. Frost, General Industrial Agent, 135 E. 11th Place, Chicago 5.

This message is presented in cooperation with the Memphis Industrial Development Committee.

J. S. Frost
General Industrial Agent
135 E. Eleventh Place
Chicago 5

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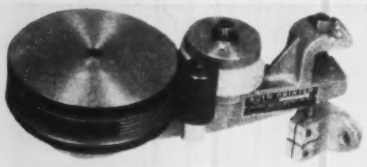
ILLINOIS CENTRAL RAILROAD

Main Line of Mid-America

THE "WHIPPET" MARKER



Automatically dates, codes, or marks production runs of cartons, packages, filled bags, boxes, rolls, cans, etc. For candy manufacturers, food packers, distillers, oil companies, etc. Send for free catalogue.

THE INDUSTRIAL MARKING EQUIPMENT COMPANY, INC.
655 Berriman Street, Brooklyn 8, N.Y., Dept. DR

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INTEGRATING YOUR TRANSPORTATION

but in some industries—textiles, for one—the purchaser picks up the tab.

Elements of distribution costs

There are at least five cost factors in physical distribution that are common to virtually every manufacturing company:

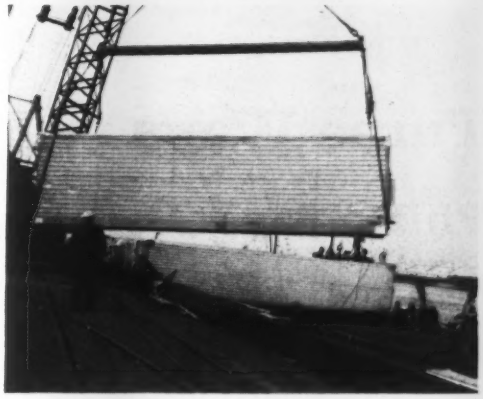
1. The operating budget of the traffic department.
2. The operating budget of the shipping department.
3. The cost of operating materials handling equipment (maintenance and depreciation write-off) to load shipments.
4. The freight bill from carriers (or the company's private carriage).
5. Packing, crating, and dunnage.

Some companies add packaging and warehousing to this list. Under traditional accounting practices, these expenses are put down as administrative overhead, production overhead, or cost of sales.

Twenty-five of the surveyed companies have already arrived at the actual cost of physical distribution by detailing these five expenses (sometimes with others added). However, most of the 82 companies attempting to develop physical distribution costs still think of them primarily in terms of the freight bill. Others come close to the new concept of physical dis-

DISPATCHERS *spot the location of trailers and their loads on a wall-size transparent-plastic control board at the Yellow Transit Lines, Kansas City, Mo. While they talk by private-wire networks to the company terminals, operations supervisors in the adjoining office can check the plastic tabs, which are printed on both sides, without disturbing the dispatchers.*

Now! An Integrated System for any phase of container handling



One man and a Clark fork truck or straddle carrier, can handle a 50,000 lb. ocean-going Brown aluminum container . . . transfer it between dock side and trailer bed or flatcar—in minutes. This integrated system offers tremendous opportunities to reduce ship turn around time, lower dock handling costs, eliminate pilferage and product damage. Fork lift trucks, straddle carriers and towing tractors of all sizes; containers and trailers of all types . . . now available from one source . . . backed by an unrivaled service warranty. For aid on any materials handling problem . . . write to either address below.

CLARK EQUIPMENT COMPANY

CLARK® EQUIPMENT

INDUSTRIAL TRUCK DIVISION
Fork Trucks • Straddle Carrier • Tow Trucks
Battle Creek, Michigan

BROWN TRAILER DIVISION
Shipping Containers—Special Chassis
Box 410 • Michigan City, Indiana

tribution costs, but fail to include one of the five important costs.

For instance, a major producer of consumer goods and detergents has come up with a figure of 4 per cent of sales for physical distribution costs. This includes the first four items on the above list, along with warehousing expense, but omits packing and packaging.

Here's a rundown of the physical distribution data that companies are developing:

- A manufacturer of valves and related equipment lists all seven items to come up with a figure of 5 per cent.
- A manufacturer of office equipment omits two items and also arrives at 5 per cent.
- A producer of metal parts of the machinery industry comes up with 4 per cent from the first five items.
- The same cost factors add up to 10 per cent for a tire manufacturer and 12 per cent for a chemical producer.

Generally, physical distribution costs vary as does the total freight bill, since this makes up the largest share of such costs in most companies. (For a rundown of freight costs by industry see DUN'S REVIEW, June 1957, page 69.)

INTEGRATING YOUR TRANSPORTATION

Integration begins at the end of the production line and ends at the beginning of the customer's production line or on the shelves of his store.

Three Ways to Faster Materials Flow

Philco Says: Pallets Are Passé!

A QUARTER of a million dollars saved annually! That's real money in any company—and for many appliance producers and distributors comparable savings may be possible by adapting the methods and techniques by which the Philco Corp. trimmed this amount from the cost of moving finished television sets from the end of the production line to the carriers.

Before building its new automated system, Philco was faced with two problems. First, when inventories built up during the peak selling season, there wasn't enough storage space in Philco's huge warehouse. Secondly, many sets, even though packaged in sturdy cartons, suffered costly damage from rough manual and fork-lift handling.

Charles O. Marron, Philco's veteran methods engineer, determined to correct the problems by developing and installing the automated system discussed here. The new handling set-up has not only saved more money than expected, but has drawn praise from Westinghouse Electric, the Hoover Company, and several railroads. Top management is so delighted with the system, which should pay off its investment in less than two years, that it has ordered an adaptation for the Philco radio plant in Sandusky, Ohio.

The old system consisted of a long

WASTED SPACE: *Eight big bays were required to store empty pallets before Philco modernized its warehousing and shipping.*

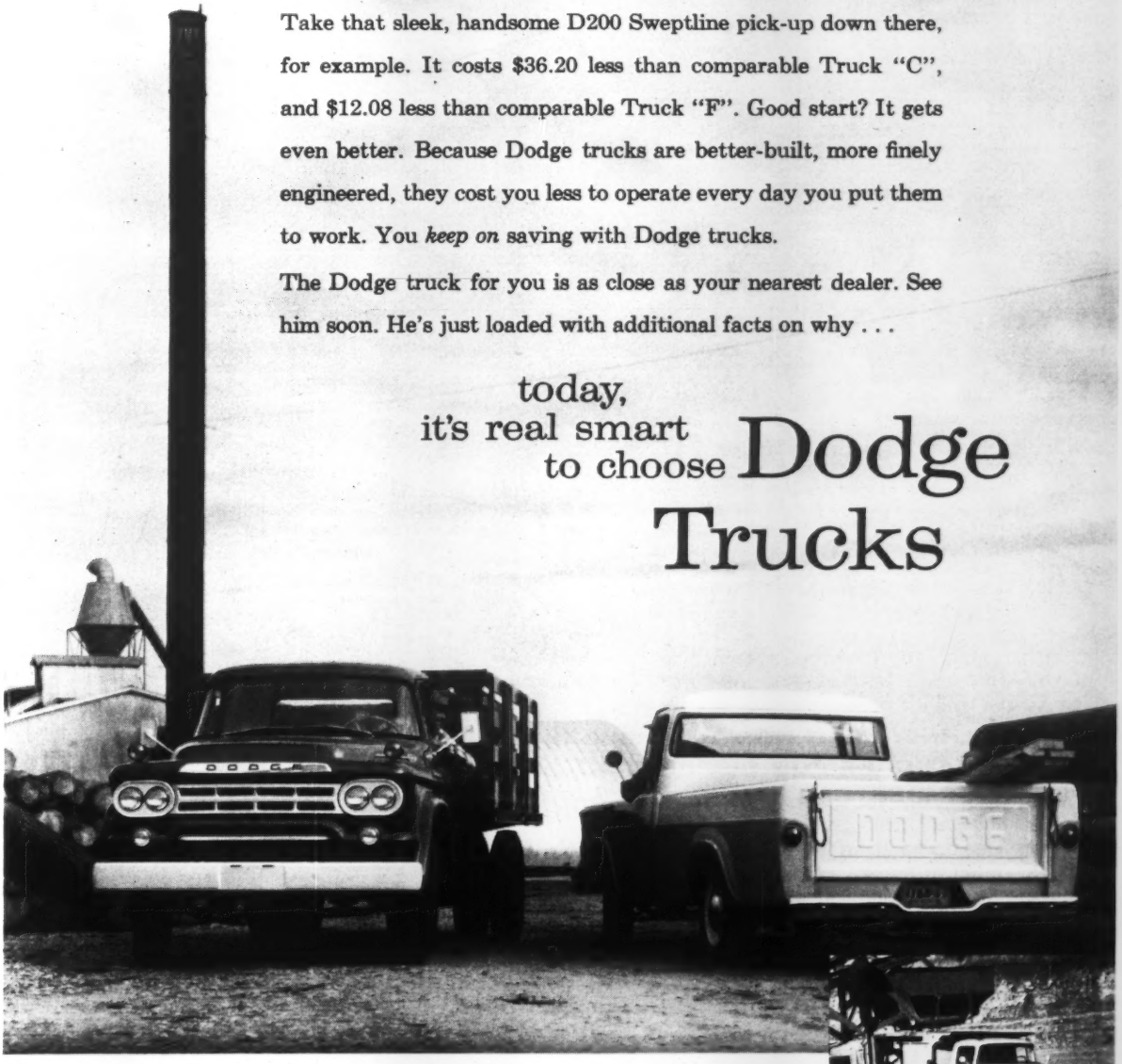
Two-way money-savers!

You *buy* them for less. And you *run* them for less. So Dodge trucks save money for you both ways.

Take that sleek, handsome D200 Sweptline pick-up down there, for example. It costs $36.20 less than comparable Truck "C", and $12.08 less than comparable Truck "F". Good start? It gets even better. Because Dodge trucks are better-built, more finely engineered, they cost you less to operate every day you put them to work. You *keep on* saving with Dodge trucks.

The Dodge truck for you is as close as your nearest dealer. See him soon. He's just loaded with additional facts on why . . .

today, it's real smart to choose Dodge Trucks

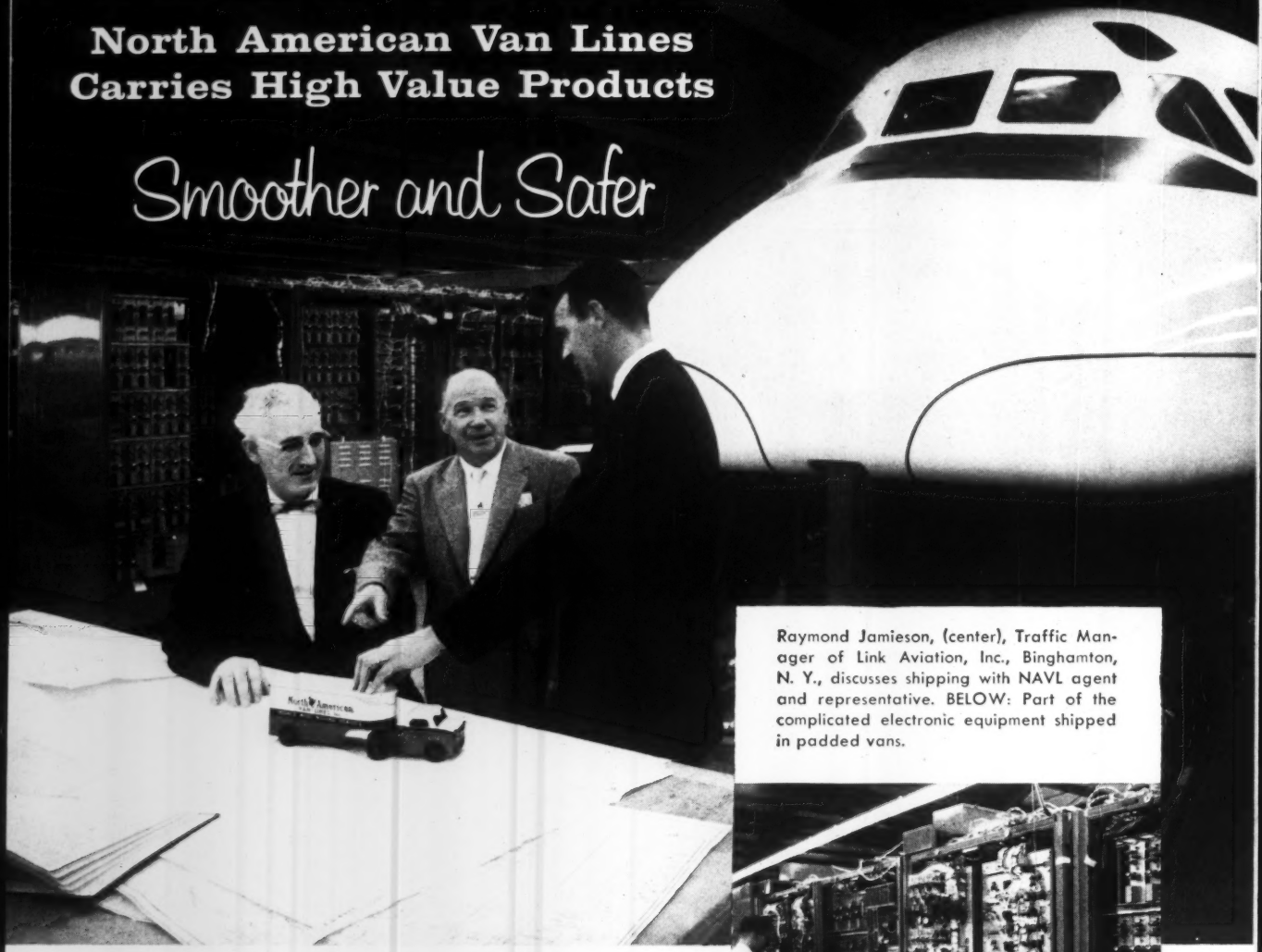


1959 Dodge "Job-Rated" trucks are truly the big buy of the low-price field. This year, at competitive prices, Dodge gives you the most in important truck features. There's a thrifty Dodge truck to do your job better—from 4,250-lb. G.V.W. pick-ups to 65,000-lb. G.C.W. Power Giants like the big D900 at the right.

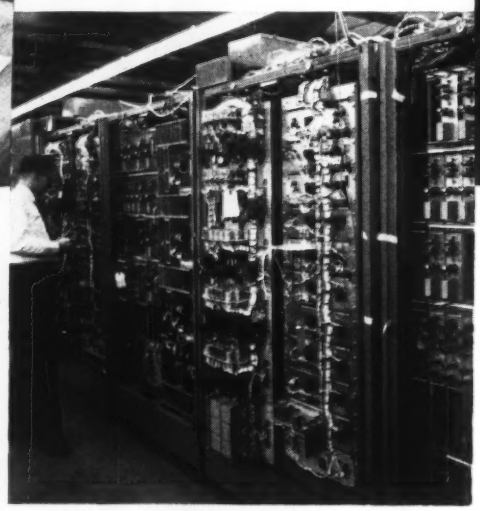
HERE'S PROOF:

North American Van Lines Carries High Value Products

Smoother and Safer



Raymond Jamieson, (center), Traffic Manager of Link Aviation, Inc., Binghamton, N. Y., discusses shipping with NAVL agent and representative. BELOW: Part of the complicated electronic equipment shipped in padded vans.



LINK AVIATION, INC. USES NORTH AMERICAN KID-GLOVE* CARE FOR SHIPPING FLIGHT SIMULATORS UNCRATED

"A $5,000 savings in cost in shipping by padded van over other methods is the bonus we get in delivering a typical flight simulator from Binghamton to the West Coast," says Mr. Jamieson. "With an insured actual value of up to $1,000,000, our primary concern is safe and careful handling. With North American Van Lines, we have never had a claim for damage."

*TRADEMARK

See how you can save with North American service. Write, wire or phone today.

North American
WORLD-WIDE MOVING
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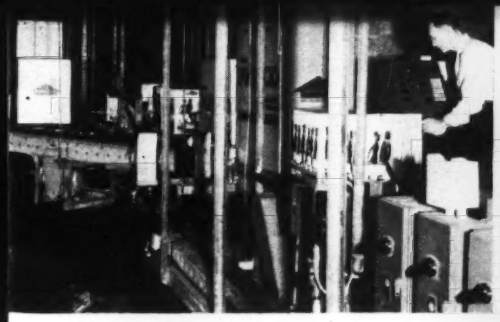
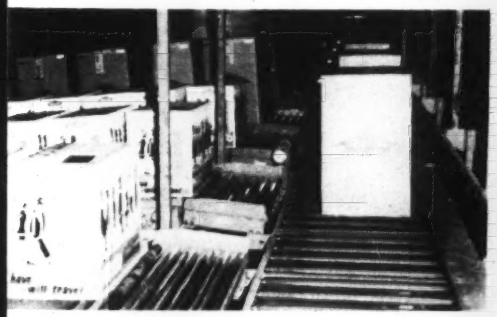
NORTH AMERICAN VAN LINES, Inc. / World Headquarters / Dept. 23-1/ Fort Wayne, Indiana

In Canada, North American Van Lines Canada, Ltd., Pickering, Ontario . . . in Europe, North American Van Lines Europe, GMBH, Mannheim, Germany



MEMORIZER: *TV sets from above pass this control station. Pushing the button for that model sends it to the proper "accumulator."*



ACCUMULATION: *Sixteen lines of accumulators, resembling a railroad "make-up" yard fill automatically with the same model in each line.*

LOADMAKER: *When enough sets have filled an accumulator, they are released for conveyerization to this Lamson loadmaker.*

TV TOWER: *Without pallets, TV sets can be piled up to nine high—contrasted with a former limit of about six.*

BEFORE: *Worn pallets also cause damage. Here, the top of a television cabinet was dented and a loose nail driven into it.*

INTEGRATING YOUR TRANSPORTATION

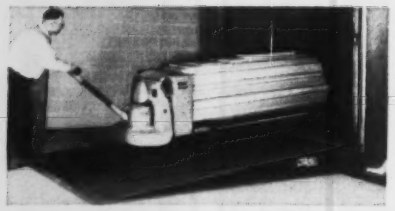
conveyer line, which received upwards of 1,200 cartoned sets an hour in random order from the upper production floors. Thirty-four men were arranged in pairs along the line to pick off specific model numbers and place them on wooden pallets—no more than seventeen models out of a 140-model line are in production at any given time. The loaded pallets were carted by nineteen fork-lift trucks directly to boxcars on an enclosed siding, trailers on a lower level, or the surrounding warehouse.

The handlers frequently dropped and damaged the cartons. Sometimes cartons slipped off as the fork-lifts swung around a corner. And, since fork-lift operators usually don't drop loads in uniform stacks, often when pallets were loaded two and three high, the pallets would press down on the middle of supporting cartons (see photo), sometimes denting metal cabinets and cracking wooden ones. And every so often, a fork would mortally stab a carton. Six men were kept busy repairing damaged sets.

Creating a new system

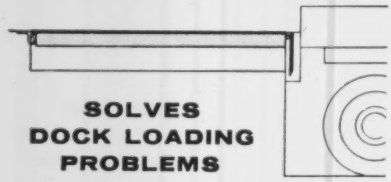
Working closely with Lamson Corp., Syracuse, N.Y. and Automation, Inc., Wellesley Hills, Mass., Marron developed his $300,000 system. The seventeen pairs of sorters were replaced by seventeen "accumulators"—100-foot-long sloped conveyers. One man, standing at the point at which the sets come down from production, recognizes each model number by attached tags and punches the corresponding button on his control panel. A simple magnetic memory then "remembers" what is inside each carton. When the carton comes abreast of the right accumulator line, the memory kicks in a chain system that drags the set off the main conveyer on to the accumulator.

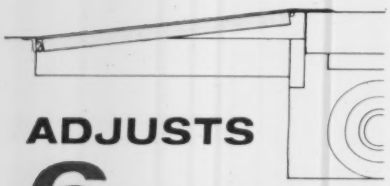
As soon as more than a load of sets has accumulated, automatic controls empty an exact load of sets into a main conveyer running in front of



Revolutionary New Kelley

ADJUST-A-LIP DOCKBOARD





ADJUSTS 6 WAYS MECHANICALLY

Adjusts **Up - Down, In** and **Out** for truck beds above or below dock level. **Tilts Right** or **Left** compensating for canted trucks.

New Kelley ADJUST-A-LIP Dockboard allows trucks to back up to dock safely because special lip folds down to eliminate possible damage to end loads or truck bodies. No cumbersome operating arms to block trailer door openings and stall operations. Dockboard will not suddenly go up, or down, as truck backs in, thus preventing possible damage to closed overhead doors and assuring safe cross traffic movement. When truck pulls out ADJUST-A-LIP automatically returns to protected position behind dock bumpers.

FREE KIT "How To Plan A Profitable Truck Dock Operation"

Get booklets on these subjects: Improving Dock Safety; How to Speed Loading; Modernizing Existing Docks; Dock Levelation Data; Designing Loading Docks.

Tear out and attach this coupon to your letterhead. Sign your name and mail to:

HI-LO Adjustable DOCKBOARDS
KELLEY COMPANY INC.
2131 W. Mill Road
MILWAUKEE, WISCONSIN

the line of accumulators. This main conveyer then runs the load to a Lamson load-maker. Marron called on Clark Equipment Company, Buchanan, Mich., to design a new "thin" grab attachment for industrial trucks to replace the forks.

Because the grab trucks are more consistently loaded to full capacity, only thirteen grab trucks, instead of nineteen fork-lifts, now are needed to handle the movement of palletless loads from the load-maker to carriers or warehouse. (Since the TV sets come in a variety of sizes, numbers of the same model can't always be nested together on a standard pallet to make up a full truckload.) Although grab trucks are 50 per cent more expensive than fork lifts, the reduction in number from nineteen to thirteen, plus savings in operator salaries and truck maintenance, more than make up for the added cost per truck. Incidentally, each truck is equipped with a two-way radio, linked with the dispatcher's desk.

New uses for old space

The greater compactness of the new system, the elimination of eight bays used for storage of empty pallets, and the fact that the grab trucks stack cartons much closer together and higher than the fork lift-pallet combination, have led to a startling gain in storage capacity. The capacity of the warehouse used to be 16,000 cartons of assorted sizes. Today, the same warehouse can hold more than 50,000 cartons, an increase of better than 300 per cent. As a result, outside warehousing expense of more than $50,000 a year has been eliminated.

There was very little friction with labor over the introduction of the new system. Sorting cartons weighing up to 200 pounds apiece is back-breaking work, and the 34 sorters were only too happy to be assigned to lighter work elsewhere.

Where pallets still pay off

Philco's great success in eliminating pallets is no omen that pallets are on the way out entirely. Undoubtedly, there are still thousands of companies where the nature of the product (see case history below) or the primitiveness of the materials handling set-up would still make introduction of pallet loading pay off. In other situations, where an existing pallet system is highly efficient, conversion to palletless loading may not save enough to justify the added cost. But where the product or the container in which it is packaged can be handled without pallets, sophisticated materials-handlers are turning to grabs and other palletless attachments for their industrial trucks to gain profitable benefits.

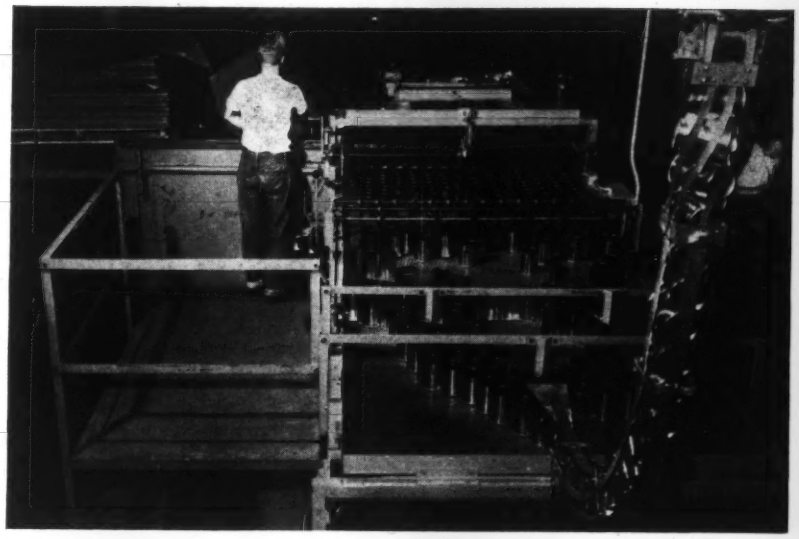
INTEGRATING YOUR TRANSPORTATION

Redesigning Product Flow to Customer Builds Sales

INTEGRATING transportation of products from the end of your production line to the beginning of your customer's production line is one sure way to increase sales—and cut your own handling costs, too. That's the worthwhile advice the American Can Company offers.

Canco has discovered recently that the best way to meet customer demands for volume, fast delivery, and price—and to take advantage of every opportunity to cut transportation costs—is to build can-unloading equipment for its customers that complements the can-loading equipment in its own plants. Eventually, regular machinery manufacturers are attracted to the market, but, meanwhile, the can company builds millions of dollars worth of special automatic equipment for customers in all the varied industries that use cans.

Building unusual machinery is not



PALLETIZATION: *This palletizer takes cans directly off the production line at Canco's Milwaukee plant. All the operator has to do is lay sheets of paper between layers.*

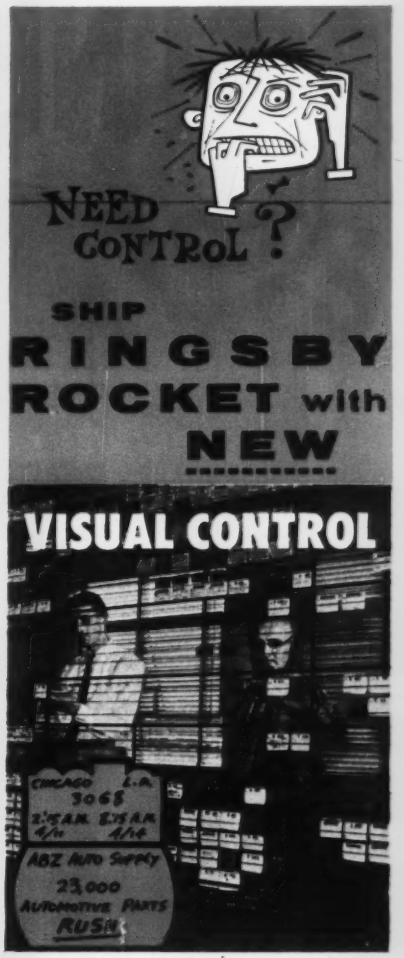
DEPALLETIZATION: *At Folger Coffee Company, Los Angeles, the empty cans are unloaded right-side-up by a Canco depalletizer and fed directly into filling machinery.*

such a difficult role for Canco to step into, since it manufactures most of its own container-making equipment and much container-closing machinery for customers.

To meet the needs of small and large customers, Canco produces unloading equipment ranging from relatively simple machines requiring the constant supervision of one or more operators, to complex, fully-automatic, high-speed, unattended giants.

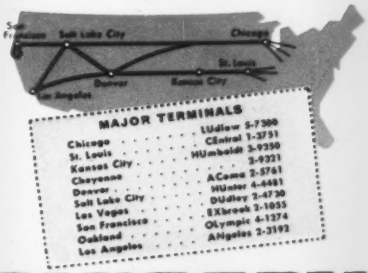
Bulk depalletizers, for instance, range in prize from $2,000 for a machine that requires one operator to sweep the cans off, to a $30,000 unattended machine that automatically swallows pallet loads and spews out cans right side up.

The development of bulk palletization and "jumble" shipping has stimulated changes in the means of transportating cans. Bulk shipment in box cars, although still the principal mode



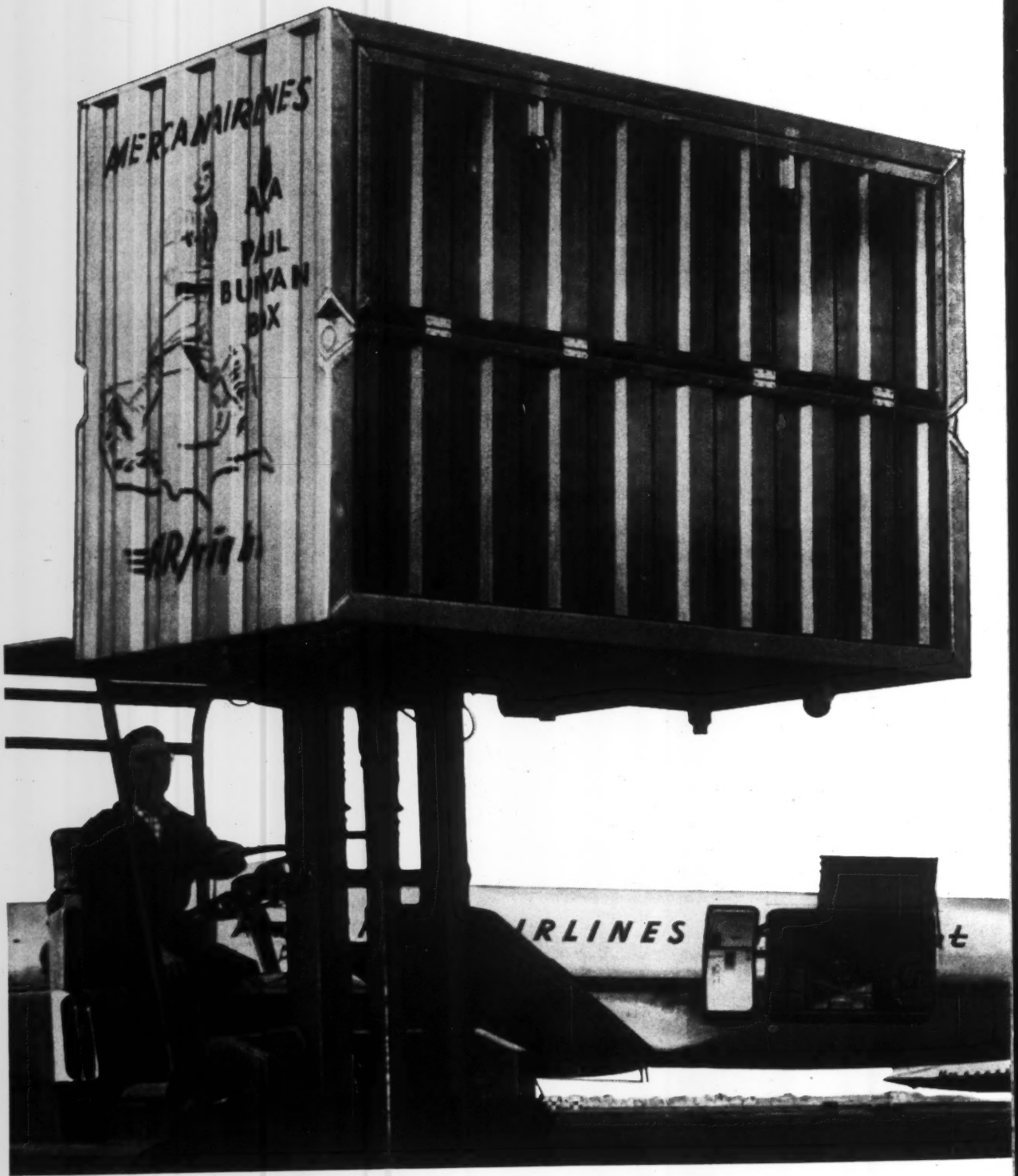
. . . and direct line phone communication

Ringsby's exclusive central-control board —and high-speed voice communications system—assure fast, accurate tracking of all shipments 'round the clock. Line-haul equipment is identified by individual magnetized status tags which show instantly shipment information and exact location anywhere in the Ringsby Rocket System.



RINGSBY
TRUCK LINES, INC.
GENERAL OFFICES DENVER, COLO.

NEW GRUMMAN



CONTAINER LOWERS AIR FREIGHT COSTS

IT'S WORKING FOR: American, United, Pan-Am, KLM, Seaboard & Western and Northwest.

Aluminum containers, designed and built by Aerobilt, a Grumman subsidiary, now enable airlines to lower air freight costs and standardize shipping methods throughout their routes. On-route tests have proved that the lightweight Aerobilt Containers save air freight carriers money by minimizing cargo handling and lowering claims from pilferage and damage. They also prove that Grumman's unique container design provides an extremely high payload per container plus the ruggedness to stand up under the roughest handling.

This completely weatherproof Aerobilt Container weighs only 203 pounds and carries a payload of 3,000 pounds. It has withstood static tests of a 3,750 pound overload plus 1,500 pounds on top without any injury to the container. The container is 84" long, 63" high and 42" wide and has a full-length hinged door which can be locked and sealed.

For more information about the variety of Aerobilt Containers to meet your specific cargo handling needs for air, land or sea, contact Mr. George Skurla, Chief Engineer and Container Manager, Aerobilt Bodies, Inc.

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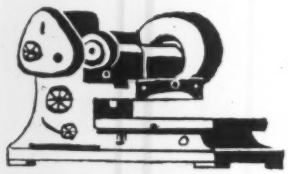
AEROBILT BODIES, INC., ATHENS, NEW YORK
A SUBSIDIARY OF GRUMMAN AIRCRAFT ENGINEERING CORPORATION

For shipping beans



or machines

or canned sardines

The better way is Santa Fe

Santa Fe

No matter what you ship, call the nearest Santa Fe Traffic Office and let the longest railroad in our nation go to work for you.

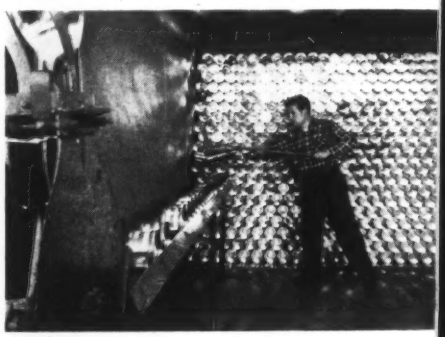
Coming next month

"Top Management Tightens Controls"

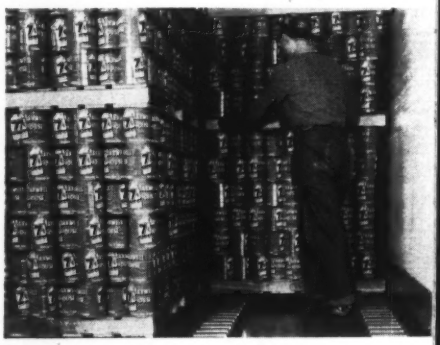
After years of deliberate, planned decentralization, many companies have had second thoughts on the subject, are quietly swinging back to centralized control again. In the July issue, DUN'S REVIEW takes a close look at some company cases, assesses the forces behind the trend, and reports on its growing importance for American business today and tomorrow.

INTEGRATING YOUR TRANSPORTATION

of transportation, is slowly declining in favor of truck shipments, because trucks can be loaded with bulk pallets much quicker than boxcars can be loaded with loose cans. Trailers with rollers set in the floor can be loaded with bulk pallets, piled two-high on the tailgates in about fifteen minutes. In contrast, it takes a car-loading



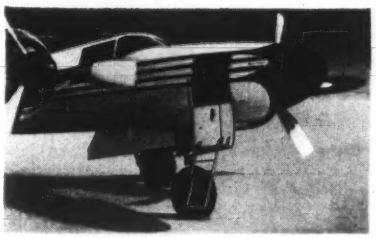
PITCHER: *Most cans are still shipped to the packer in boxcars loaded directly off the end of the production line by pitchfork.*



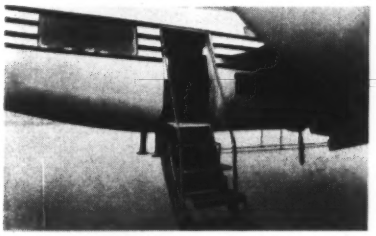
ROLLER COASTER: *With rollers in the floor of trailers, a full load of palletized cans can be pushed in by one man in minutes.*

crew some four hours to load a boxcar with empty cans (see photo). However, where the customer needs to use the boxcar as a temporary overflow storage space for cans, the bulk method retains an advantage. Using truck trailers for temporary storage is prohibitively expensive.

Canco's experience with building sales through the development of new shipping techniques doesn't mean that every mass producer should become a machinery manufacturer or try to induce a regular machinery



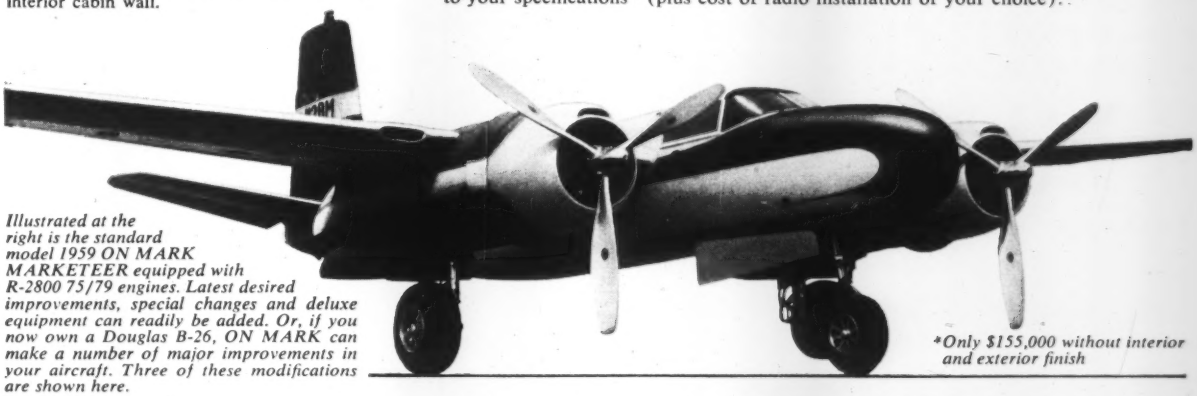
New contoured long nose section (103") to incorporate radome and a large baggage compartment with foldaway ladder.



Side entrance hydro-electrically operated airstair door with steps that fold to allow a flush interior cabin wall.

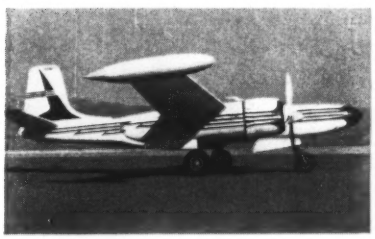
NOW YOU CAN OWN THE FAMOUS 1959 ON MARK MARKETEER FOR AS LITTLE AS $175,000

NOW, Mr. President and Mr. Chief Pilot, you can have Speed, Safety, Range and Economy *combined* in one outstanding corporate aircraft—for little more than the cost of a slower, smaller airplane. The famous new 1959 ON MARK MARKETEER, fastest and safest of the business fleet—a completely remanufactured Douglas B-26—may be purchased for as little as $175,000 with executive interior and exterior finished to your specifications* (plus cost of radio installation of your choice).



Illustrated at the right is the standard model 1959 ON MARK MARKETEER equipped with R-2800 75/79 engines. Latest desired improvements, special changes and deluxe equipment can readily be added. Or, if you now own a Douglas B-26, ON MARK can make a number of major improvements in your aircraft. Three of these modifications are shown here.

*Only $155,000 without interior and exterior finish



Latest design tip tanks to provide greater fuel capacity, extend range, and lower the stall speed of your airplane.

DEPEND ON DOUGLAS FIRST IN AVIATION

On Mark Engineering Co. has been licensed by Douglas Aircraft Company as the only producer of parts for the B-26 airplane. Let us fulfill your needs.

Compare these advantages found only in the MARKETEER:

SPEED—315 to 365 mph depending upon type of engines.

SAFETY—9 "G" airframe, modern tricycle landing gear and Hytrol anti-skid braking system.

RANGE—1500 to 3000 miles cross-country non-stop. Capable of landing at any existing airport.

ECONOMY—Initial cost is little more than for a slower, smaller corporate airplane. Operating cost is far less than for converted DC-3, Lodestar or Convair type aircraft.

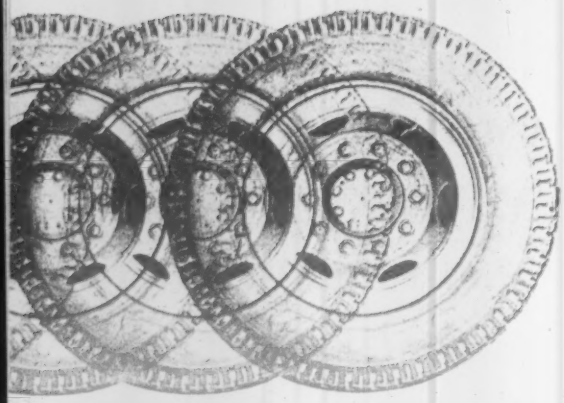
Comfortably carrying 7 passengers, plus pilot and co-pilot, the MARKETEER soon proves itself *a profitable business investment.* Owners are unanimous in their enthusiastic reports of utmost dependability and satisfaction from this reliable airplane. Many have been so pleased with the exceptional performance, they have augmented their business fleets with the purchase of 2 or more MARKETEERS.

ON MARK will give you a liberal trade-in allowance on your present airplane. Or, leasing arrangements for the MARKETEER can easily be made. Write for our brochure that illustrates the latest features of this distinguished aircraft for corporate use. Please address: Robert O. Denny, President.

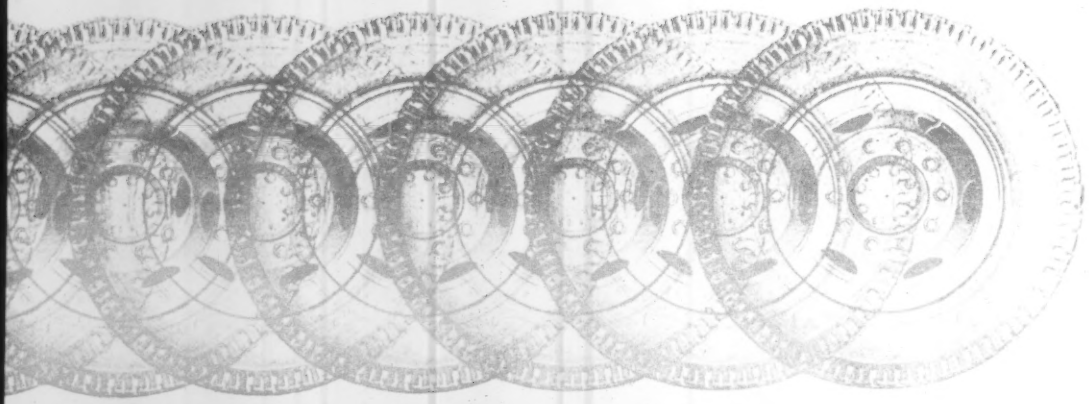
ON MARK *Engineering Company*

7929 Hayvenhurst Avenue, Van Nuys, California • Telephone: STanley 3-1030
Cable address: ONMARK

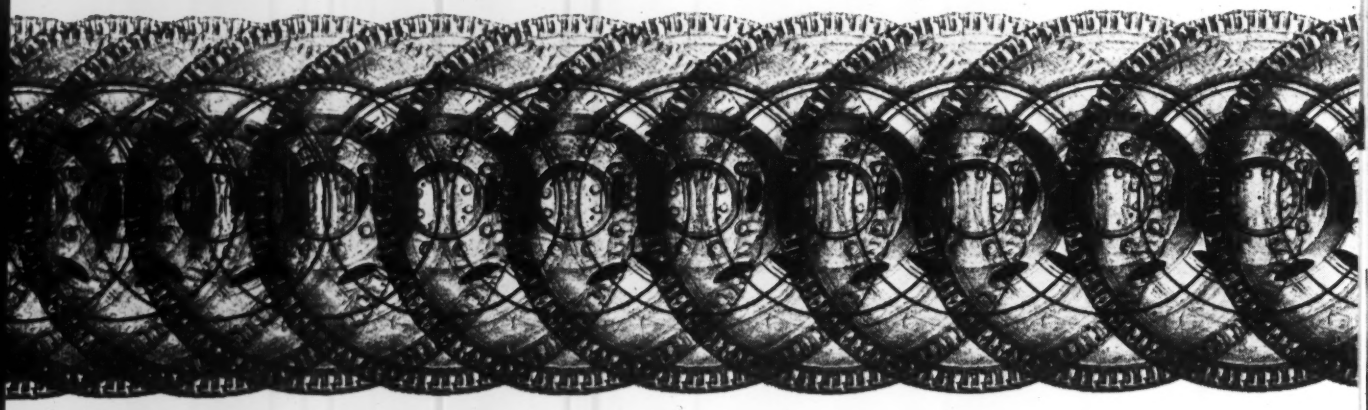
Ten years ago five percent of all heavy-duty



Today more than twenty-five percent of all



Cummins diesels power more new heavy-duty



DESIGNED BY SAUL BASS

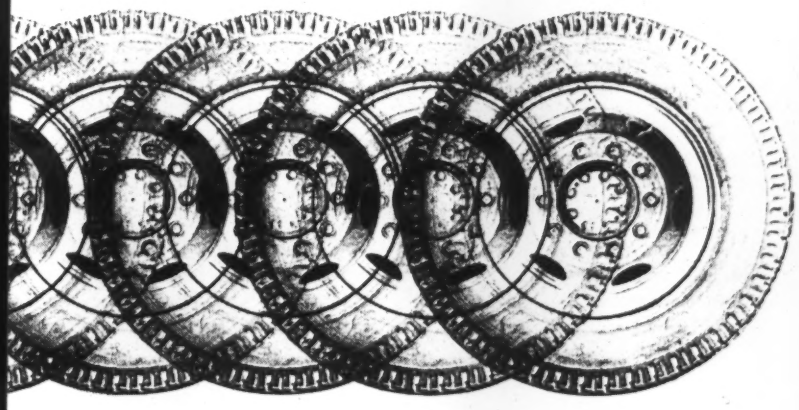
Are you earning as much profit as you should from your trucking operation? Write for "Evaluating Diesel Power for Motor Trucks" which explains the advantages of diesel over gasoline—Cummins over other diesels. It's free for the asking.

Sales Development Dept., Cummins Engine Company, Inc., Columbus, Indiana

trucks were powered by diesels...

heavy-duty trucks are powered by diesels...

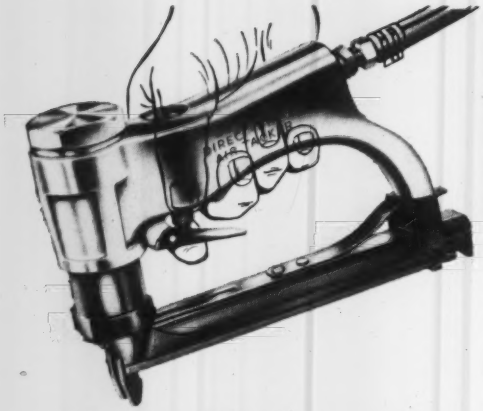
trucks (57%)* than all other makes of diesels!



Today, diesels are the proven way to beat the rising costs of moving materials and goods. More and more truckers are specifying Cummins for these reasons: LONG ENGINE LIFE, as much as 350,000 or more miles before overhaul; LOW COST MILEAGE, 2¢ a mile fuel and maintenance savings over gasoline power; SERVICE AVAILABILITY, more than 400 service points throughout the U.S. and Canada. That's why in 1958, Cummins powers 57% of all new diesel trucks registered.

CUMMINS

*This figure is based on the new diesel truck registration figures of the R. L. Polk Co., through November 1958.



Your plant, too, can cut costs with DUO-FAST Automatic Stapling

Shown here are just 4 of the many ways DUO-FAST Automatic Stapling is reducing costs for others. Yes, and you, too, can save with DUO-FAST.

The first step? Simply *analyze* your present fastening methods . . . particularly those now being done with brads, screws, tape or glue. You'll find mighty few that can't be done faster, neater or easier with a DUO-FAST Stapler or Tacker.

Let your nearby DUO-FAST Representative help you make this analysis now. With over 150 staple-tacking models to draw on, he can show you the safe, accurate, *automatic* way to streamline your fastening methods.

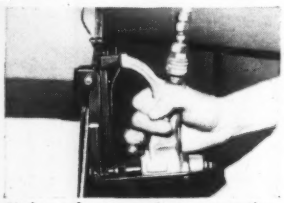
Free maintenance. And remember: DUO-FAST tools carry our famous Free Service Guarantee. For a Free 28-page Manual of ideas you can use, return the coupon below.

DUO-FAST

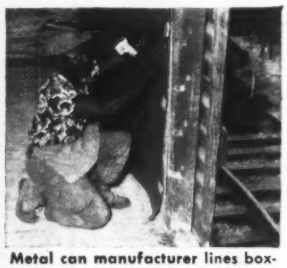
Staplers • Tackers • Staples

Leading photographic equipment firm solves precision fastening problem at lower cost with new DUO-FAST Bench Stapler. Air-operated tool leaves both hands free.

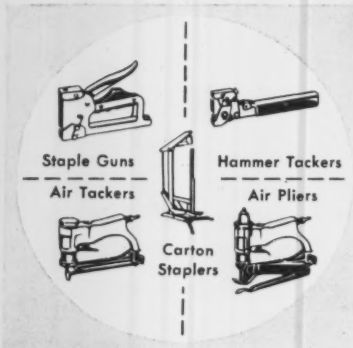
World's largest automobile manufacturer speeds production by tacking body interiors with DUO-FAST Air Tackers. The skill and accuracy are built-in.



Maker of automotive accessories "ended customer complaints" by stapling large, unwieldy cartons with DUO-FAST Air Pliers. Provides better packaging at lower cost.



Metal can manufacturer lines boxcars faster with speedy DUO-FAST Hammer Tackers. Shipping Manager calls it "the best and easiest method!"



New Ideas for you!

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Without cost or obligation, please:

☐ send DUO-FAST Staple-Tacking Manual.

☐ have a DUO-FAST man call on us.

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8074

INTEGRATING YOUR TRANSPORTATION

manufacturer to produce special gear. However, going out of your way to cut your customer's transportation and materials handling costs is certainly a fruitful method of boosting your sales volume—especially if you can cut your own handling costs at the same time.

Packaged Lumber Cuts Labor Costs

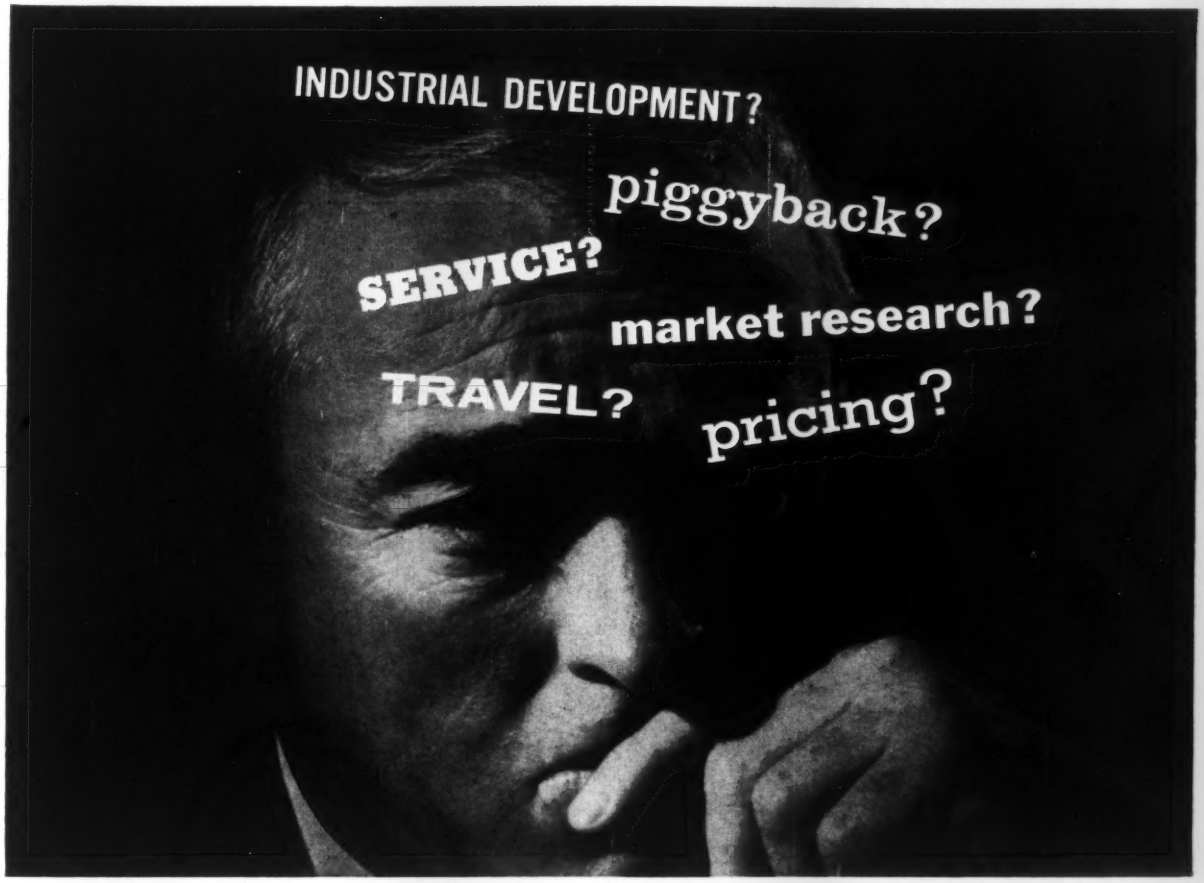
IF PERFORMANCE records were kept of such things, a new world's record in the unloading of lumber probably was chalked up a few weeks ago at Decatur, Ill. In that city, the Pittsburgh Plate Glass Company designed one of the most modern freight docks in industry—one that enables the company to take advantage of the savings offered by unitized shipments.

It was used for the first time in April, when seven boxcars containing a quarter of a million board-feet of lumber were unloaded and stored in seven hours by two three-man teams, each utilizing a fork truck. At the same time, the lumber was classified by size, placed in bays, and made available for use in making shipping containers for window glass.

After the first lumber shipment of seven carloads was unloaded in 42 manhours, wareroom superintendent Hamil Williams said, "From previous experience, I would estimate that it would have taken four men ten complete working days to accomplish this by hand." According to his estimate, 278 manhours were saved.

When the shipment arrived at the unloading dock, each freight car contained twelve packages of lumber. The twelve packages were combined into six stacks by interlacing each unit of two packages with two lengths of Acme Steel heavy-duty steel strapping. These interlace straps run through the horizontal centers of the two packages in each stack. This strapping provides bracing protection to insure delivery of lumber in bundles intact and ready for mechanical handling.

To facilitate handling, Sanford-Harris Lumber Company, Pittsburgh, provides a sketch of the package

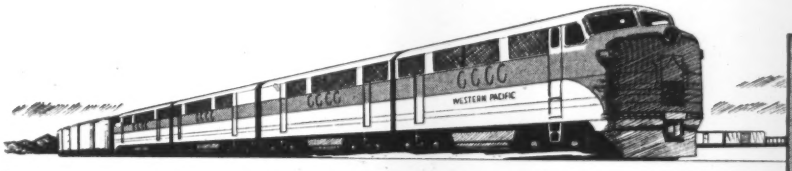


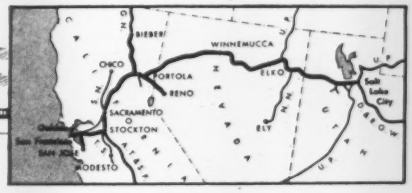
Whatever your transportation problems
...we can help you find the answers!

If it isn't one problem, it's another. A shipper's life is not always a merry one. We know this and we've done something about it.

We have recently broken with railroad tradition and have created the Marketing Division, a complete reorganization of what was formerly our Traffic Department. This newly integrated group of departments and specialists is working closely together as a fast-moving team to provide transportation services *customer-oriented* to fit each shipper's and traveler's particular needs.

Whatever your problem . . . schedules, rates, special equipment, travel plans, the location of a new West Coast plant site, or what have you . . . Western Pacific's new Marketing Division is set up and staffed to produce the answers quickly.





General Offices: 526 Mission St., San Francisco, Calif.

WESTERN PACIFIC

ROUTE OF THE VISTA-DOME *California Zephyr*

"MESSAGE MISSILES"

at Sangamo Electric Cut Order-Handling Time From Days to Hours!

Executive Offices of Sangamo Electric Co. are within a few minutes reach of any part of the 14-acre plant. With Lamson Airtubes, many shop orders are readied for production in 8 to 24 hours less time than formerly.

The Sangamo Electric Co., Springfield, Ill., took days to process an order until Lamson Airtubes were installed. Now Sangamo—a large manufacturer of watt-hour meters and other electrical equipment handles the same order in hours.

Wherever Lamson Airtubes are installed, they bring the same big savings in time and labor. Mail pickup and delivery is expedited. Engineering drawings go from Drafting to Production in minutes, not hours. Job tickets get high speed transportation from Production to Cost and Accounting. Communication is from man to man—not from man to messenger to man. And the messengers themselves are released for more productive work.

Lamson Airtube Systems are designed, manufactured and installed by Lamson Engineers, with one manufacturing responsibility behind the entire operation. Your choice of regular Airtube systems or Automatic Systems which eliminate central stations and their operators. You get 24 hour a day service with small depreciation.

PREVIEW the low cost and high speed advantages of a Lamson Airtube System. "Making Money Out of Air" is a 15 minute, color, sound movie that shows how one company conducted a paper flow survey to determine the cost of paper handling. When you write for the movie, ask for details on how you, too, can make this same survey in your plant. Address . . . 609 Lamson Street, Syracuse 1, New York.

PIONEERS *the Conquest* OF INNER SPACE

LAMSON

LAMSON CORPORATION

PLANTS IN SYRACUSE AND SAN FRANCISCO • OFFICES IN ALL PRINCIPAL CITIES

INTEGRATING YOUR TRANSPORTATION

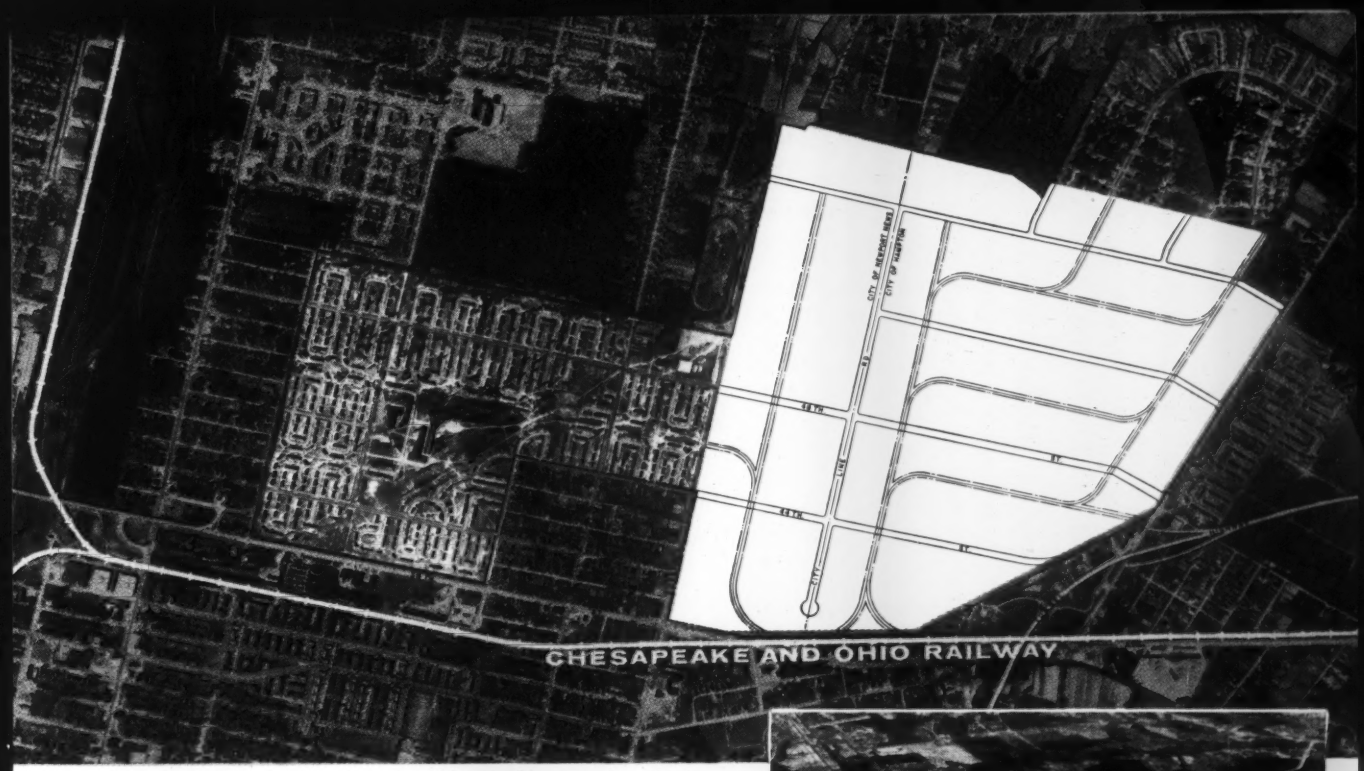
layout and manifest listing the contents of each lumber package. It also staples a booklet of unloading instructions on the face of the lumber unit just inside the boxcar door.

As the packages of lumber are removed from the boxcars, they are placed in the bay designated for that size lumber and are stacked three packages high. There is room for eight stacks, or 24 packages, in each bay. Considering all sizes and types of lumber inventories, the capacity of the shed is 500,000 board-feet.

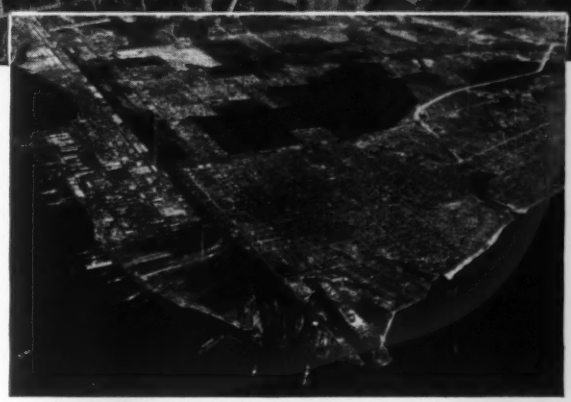
When the lumber is required for production, a specific package is selected from the warehouse and transferred by lift truck to one of two monorails which carry packages di-

UNITIZED SHIPMENTS *of lumber are quickly unloaded at the Decatur, Ill., plant of the Pittsburgh Plate Glass Company, cutting unloading manhours by 80 per cent.*

JUST SEVEN HOURS *after the unloading of the seven boxcars began, the last package of the 500,000 board-feet of lumber is put in its place in the classified storage bay.*



Area in white is cleared and ready for building. Other areas will be cleared of present residential construction as needed.



Copeland Industrial Park (blue) adjoins Newport News business section and is close to the great pier facilities serving world-wide commerce.

Start building tomorrow at

Copeland Industrial Park

in Newport News—Hampton, Virginia

There are lots of Industrial Parks on paper – here's one that is already developed, offering important advantages not usually available at the start. Sites are already graded and all utilities – water mains, gas, electricity – are in existence. These factors help reduce construction costs, shorten building time and make it unnecessary to conduct separate negotiations for each utility installation.

Excellent transportation by land and by sea. Nearby markets easily reached by Chesapeake and Ohio Railway or highway. Its location at Hampton Roads – one of America's busiest harbors – links it most conveniently to all parts of the world.

There is an ample supply of both skilled and unskilled labor. The two adjoining cities of Newport News and Hampton have a combined population of 207,774. The area has a long tradition of good labor relations.

We will be glad to send you full information about the many advantages that make this a most attractive location for a great variety of industries.

Address: Wayne C. Fletcher, Director of Industrial Development, Chesapeake and Ohio Railway, Huntington, West Virginia – Telephone: JAckson 3-8573.

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rectly to the sawing department. Once inside, the package is placed next to a sawing station, the heavy-duty strapping is cut from the package, and pieces of lumber are processed.

The ideal materials-handling situation is an operation in which items are unloaded on a conveyer that moves them through processing and out for shipment. One company with such an operation is the Penick and Ford Company, which processes maple syrup in Burlington, Vt.

Four freight carloads of bottles arrive daily. The cases containing the bottles are unloaded directly on conveyers. As the cases move along, the bottles are automatically removed, filled, and replaced in the shipping cases. The cases then flow directly back into the freight cars. The glass received each day is shipped that day.

But, unfortunately, very few operations offer management the opportunity to achieve such a straightforward flow of incoming and outgoing materials. Consequently, management is becoming increasingly aware of the importance of integrating all the elements involved in materials management to approximate as nearly as possible a smooth flow of materials from plant to customer.

INTEGRATING YOUR TRANSPORTATION

Another way that companies are stretching the transportation dollar is by setting up their own trucking operations. Here's a rundown of the advantages and pitfalls in do-it-yourself trucking.

Company Trucks Roll in High Gear

PRIVATE industry today operates more than three times as many trucks as the trucking industry itself. Since they have become an increasingly important segment of the national transportation system, companies that run their own trucks have been forced to develop the know-how on interstate transport to meet the many problems inherent in moving goods.

Private trucking has become such a large part of the transportation industry that some common carriers—both truckers and railroads—are coming to realize that their most serious competition is not with one another, but with private carriage.

Each day—as costs rise, state laws are changed, and taxes are compounded—problems mount for companies that operate their own truck fleets. The search for operating efficiencies, improved service, and specialized management to head up the fleet operations can sometimes be a burdensome chore for the manufacturer whose primary concern is production and sales. However, many companies are discovering that do-it-yourself trucking goes a long way toward stretching the transportation dollar—and, at the same time, improving delivery schedules.

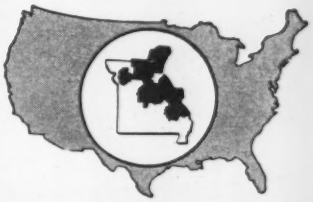
There are no hard and fast rules as to when a company should operate its own trucks. Companies have varying reasons for operating their own equipment, and economy is not always one of them.

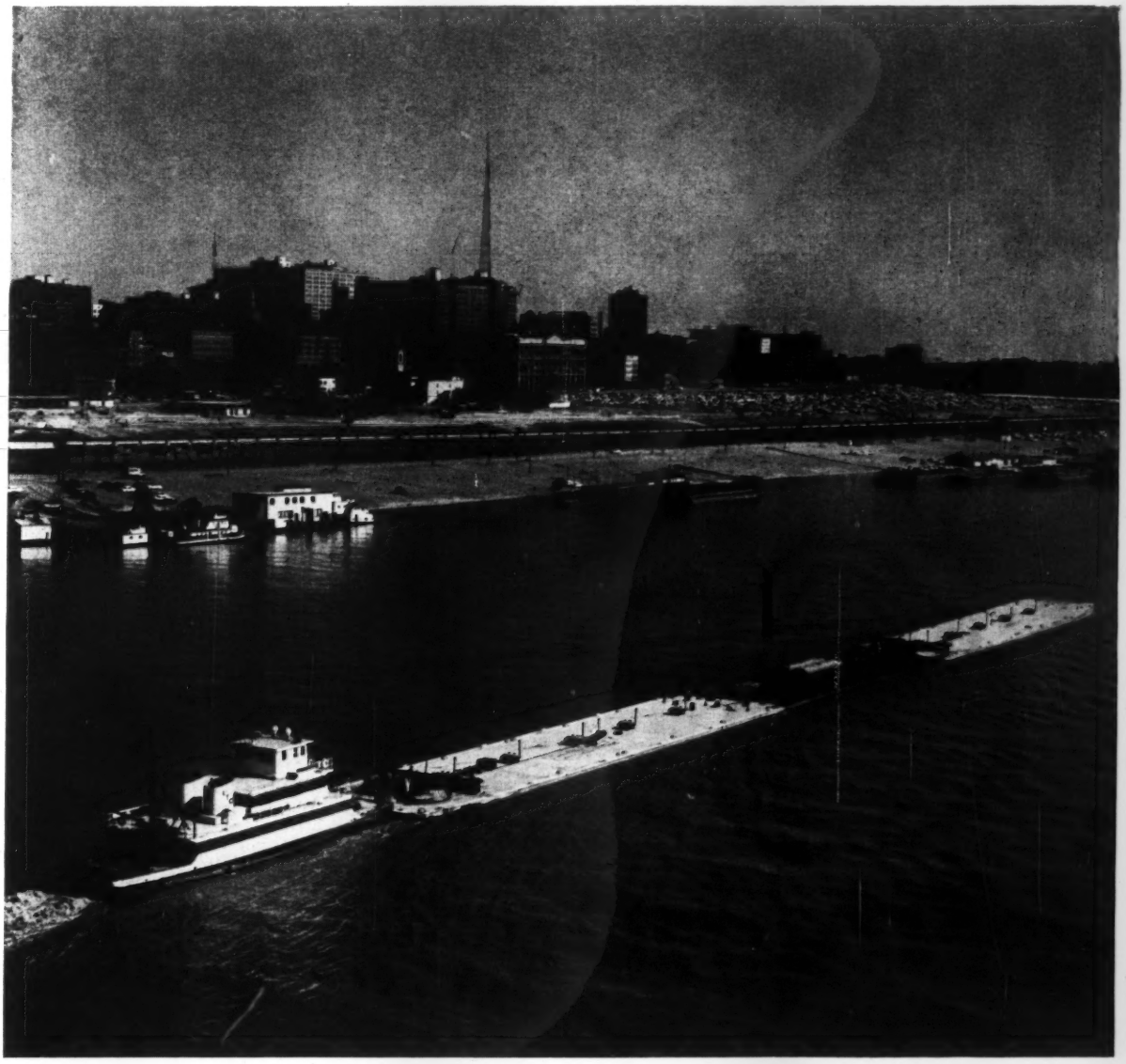
Many companies in the oil industry were forced into their own transportation operations because common carriers would not supply tank cars, trucks, or pipelines.

The wholesale grocery business generally requires small trucks manned by two men for inside deliveries to restaurants, hospitals, and other institutions in congested areas like metropolitan New York. The trade demands very reliable deliveries and a special service which many common carriers don't find it economical to render.

REPRESENTATIVE *of the many new private truck fleets operated by industry is the one used by Gordon's Food Division of Sunshine Biscuits, Inc. These trailers make possible overnight delivery of potato chips and other products to distributors. To take advantage of new developments in transportation, the plant is located close to the South Expressway near Atlanta, Ga.*

Union Electric Service Area . . . strategic center of America for INDUSTRIAL WATER





The mid-continent rivers make up the world's greatest inland waterway, connect 29 markets in 20 states.

contact: *J. E. Johanson, Manager, Industrial Development,*
UNION ELECTRIC CO., St. Louis 1, Mo.

in INDUSTRY...

no other type of container handles delicate parts so surely... or so gently!

Kennett Receptacles are unsurpassed for safe, quiet production-handling of delicate instruments, electronic components and fragile sub-assemblies. They're made of National Vulcanized Fibre, a material amazingly light, tough, smooth, durable.

If you have a component or a product which must be handled gingerly, you'll do it more quickly, easily, surely—and cut noise—with a Kennett Receptacle. You'll cut your costs considerably, too.

Kennett Receptacles are made of National Vulcanized Fibre, which, by the way, *is not paper*, but a chemically-made fibre with about the most ideal combination of container characteristics money can buy.

National Vulcanized Fibre does not chip, crack, peel, blister, corrode, rust, crumble or crush. It's extra strong, light as plastic, smooth as porcelain and *tough*, with tremendous shock-absorbing resiliency. This means a Kennett Receptacle can take abuse, soften jolts and keep its contents safe from snags, slivers and sharp edges.

You can get Kennett tote boxes, trays, roving cans and trucks in almost any size—even in a fire-resistant Vulcanized Fibre, if you wish. Or, name your special container requirement and Kennett will meet it. We suggest you write for our booklet *Materials in Motion* . . . today. Tell us the receptacle use you have in mind and we'll send some specific suggestions with our reply.

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INTEGRATING YOUR TRANSPORTATION

Some service organizations, such as telephone companies, which need special equipment for specific jobs, find it impractical to use anything but private carriage. Others are forced into these operations by problems peculiar to their industry.

A large manufacturer of glass and building materials owns and operates more than 4,000 trucks, most of which are specially designed to carry its fragile product. The trucks are serviced by the truck manufacturer each evening and are ready to roll in the morning. In addition, general-purpose trucks are used for intercity runs, but the specially equipped ones are used mainly for local distribution. On many long hauls, motor common carriers who can supply drop-frame trailers to carry the "high dimensioned" shipments are engaged.

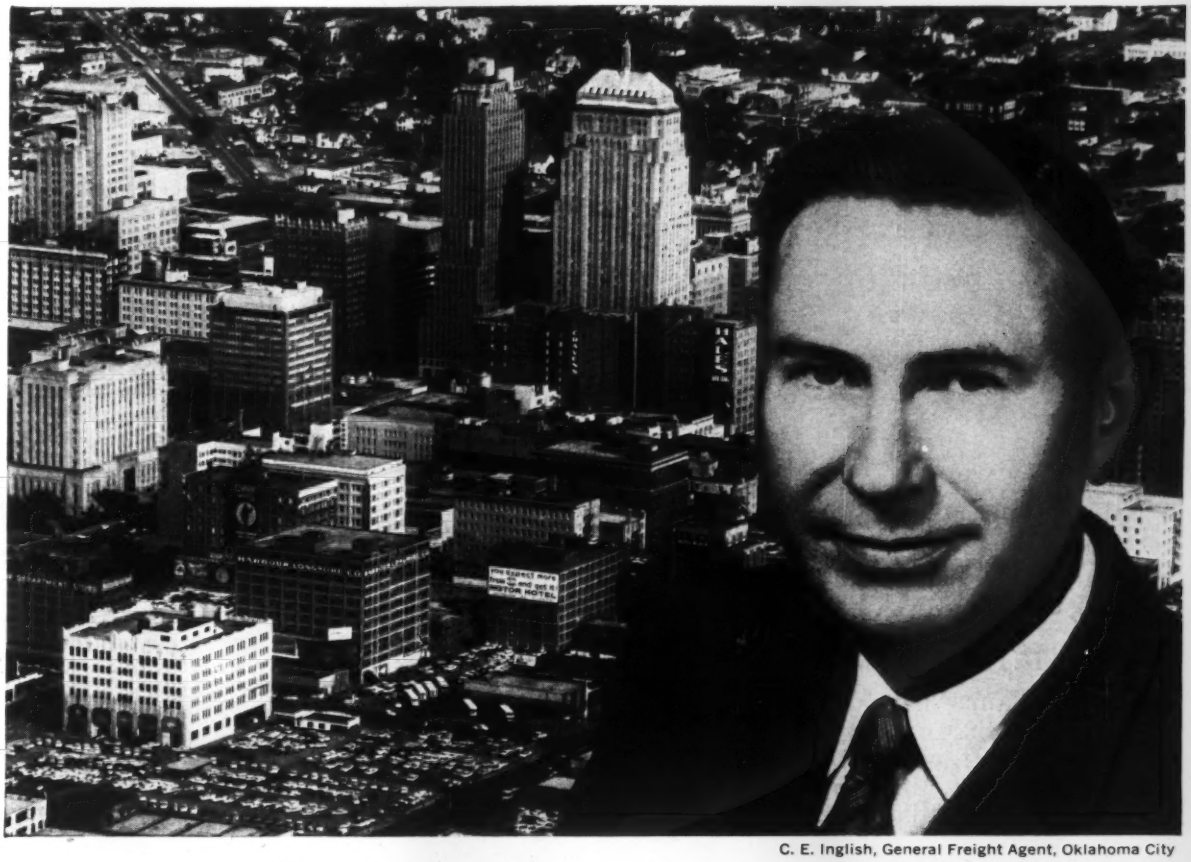
Private trucking for textiles

Textile companies have gone into private carriage on a large scale to bring raw materials into New York from the South, either for manufacture or for further processing, and to return supplies and finished goods. For instance, one manufacturer operates 30 tractors and 50 trailers between New York City, the South, and New England.

There are several reasons for the growth of private carriage in this industry. Textiles are usually rated high in common carrier tariffs, and this can make a sizable spread between the costs of operating a private fleet and the total freight bill from a common carrier. Also, production schedules are very tight in the fast-moving garment industry. If the goods are not on the spot when needed, losses can be serious. Thirdly, since there is a very real need for keeping inventories pared to the bone, textile companies can't afford to have inventories tied up in transit.

When a private trucking operation spreads in too many directions, the problem of return hauls becomes serious, for deadhead trips are frequently necessary.

Deadhead returns on a short haul (a round-trip made in one working day) may not be uneconomical if the



C. E. Inglish, General Freight Agent, Oklahoma City

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This property, as Rock Island's C. E. Inglish, above, can show you, is ideal for industrial use. Zoned for heavy and light industry, it is level, well-drained, and has a good foundation. By car the area is an easy 10 minutes from downtown and by the Rock Island it is within fast, easy reach of the Gulf, major midwestern and north central markets, and, by connecting lines, the vast West Coast.

Mr. Inglish will gladly arrange a tour of the area for you. He can provide you with complete data on labor, utilities, water, taxation and other vital information; he'll show you proposed lead track plans that will assure you efficient plant-side rail service.

Mr. Inglish and his staff are typical of Rock Island specialized personnel who, in the past three years, have helped locate over a billion dollars of private industry along Rock Island tracks. He'll welcome your inquiry. Write, wire, or phone in confidence to:

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La Salle Street Station, Chicago 5

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Where climate turns the wheels of industry for greater profits

LONG BEACH, CALIFORNIA

INTEGRATING YOUR TRANSPORTATION

goods carried fall into a high classification that would call for high common-carrier rates. (For data on when do-it-yourself trucking pays off and how deadheading can eat up any savings, see DUN'S REVIEW, June 1958, page 87.) The more a private carrier operation resembles the usual common carrier operation in running a steady traffic between two points with quick turnaround, the simpler and more manageable it becomes.

The need to cut transportation costs prompted a large drug manufacturer to swing over a considerable volume of freight to private carriage. The company operates eighteen tractors and 24 trailers over the road to eliminate high minimum charges, warehousing costs, and costly less-than-truckload shipments to customers in distant cities. Orders are received at the plant and consolidated in one trailer-load to a distant city, where it is turned over to a local trucker for distribution. At the point of distribution, the local trucker unloads the trailer and loads his trucks for delivery the same day.

Bringing back the payload

With this method of shipping, warehousing of stock at the distribution points is not necessary. Before going on the run, the driver is told where he should pick up raw materials or supplies for a return load. Arrangements for return load freight are made in advance by the traffic manager with the distribution trucker, so as to save time for the turnabout trip.

Without a two-way haul this set-up would be impractical and uneconomical, because the empty return trip would drain any savings realized on the outbound move. This shipper was selective in analyzing just what portion of his material movements were suited to this kind of operation.

Under Interstate Commerce Commission regulations, private carriers can move exempt commodities (agricultural products) on whatever terms are agreed upon by the shipper and the truck owner.

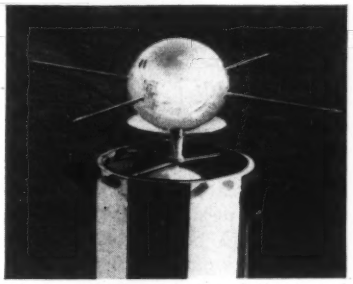
A Midwest manufacturer, who exports to the Far East, sends trailer-loads to West Coast ports and then

IMPORTANT DESIGN ADVANCES . . .

IMPROVED DOCKBOARDS NOW MADE BY LARGEST MAGNESIUM FABRICATOR IN U. S.

In June, 1958, Brooks & Perkins introduced a line of improved design magnesium dockboards. A pioneer fabricator of magnesium assemblies for military aircraft, missiles, electronics, and communications systems, the company is the largest fabricator of magnesium assemblies in the U. S.

B & P manufactured the Vanguard Earth Satellite, the tail cone for the B-47 Bomber, the gun turret enclosures for the mammoth B-36 Bomber, the vertical plotting equipment for Continental Air Defense, the new Lockheed Electra Propeller Spinners, jet pods, radar reflectors, aerial delivery platforms, Signal Corps teleprinter covers, and thousands of other assemblies used in aircraft and missiles.

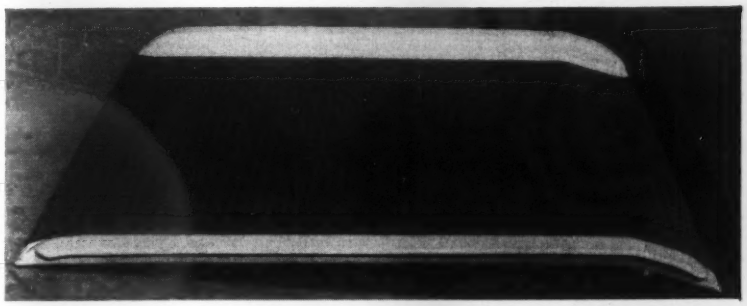


Earth satellite's magnesium shell is typical of B & P's skill in fabrication.

B & P also operates the second largest magnesium rolling mill in the U. S. and supplies sheet and plate to hundreds of users; was the first producer in the world of Boral for

Magnesium tail cone and gun turret enclosure for B-47 Bomber.

neutron shielding; was the first company to hot, deep draw parts from titanium; and the first company to hot, deep draw zirconium sheet.



The company also makes magnesium photo-engravers metal and back-up plate for the newspaper and graphic art industry.

Brooks & Perkins and Calumet & Hecla jointly own the subsidiary

Kleinschmidt teleprinter on pack board and set up.

Magnesium aerial delivery platform developed and built by B & P.

Alabama Metallurgical Corp., now constructing a primary magnesium production plant in Selma, Alabama. When this is in production by August, Alabama Metallurgical Corp. will be the second U. S. commercial producer of magnesium.

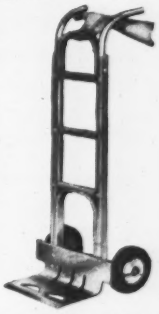
B & P DOCKBOARDS GIVE EXTRA VALUE

Users of B & P dockboards are assured of extra values which result in stronger, safer dockboards with longer life.

The greatest dockboard improvement in years is the ***B & P one-piece extruded curb with forged ends.*** Other important extra values include: curbs with ***full length hand grips*** for safer, easier handling. Faster, safer movement of lift trucks over the boards is assured by ***yellow curb markings.***

All B & P boards are ***arc-welded with argon-shielded consumable electrode*** for better weld penetration and highest strength. Every dockboard is ***heat treated after welding for stress-relief*** to eliminate stress cracking in service.

These plus values and the fact that all B & P dockboards are strong, light magnesium made by the largest and one of the oldest magnesium fabricators in the country, guarantee extra value for every dollar spent.



B & P has for several years made magnesium hand trucks of superior design and workmanship; also other non-powered floor trucks of all types.

Write for B & P Dockboard Brochure.

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Oliver-Farquhar aluminum Ve-Be-Veyor Power Belt Conveyors are the most versatile units on the market. Available in 12-, 16- and 20-foot lengths, powered by either a 1/3rd hp electric motor or gasoline engine. Whether you are moving bags, boxes, cartons or packages into, around or out of your plant — remember, use Ve-Be-Veyors. They cut time, cut labor costs—every time! Write, wire or phone for details today.

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INTEGRATING YOUR TRANSPORTATION

returns (on a for-hire basis) with exempt commodities like fresh fruits and vegetables. On most occasions, the driver knows in advance where he is to pick up his return load. Contacts are made with food brokers, and transportation rates are arranged by negotiation. Usually, set prices are paid by brokers or produce dealers. In less than 10 per cent of the cases, the driver is unable to get a load and must deadhead back to his home terminal. Sometimes he has to lay over a few days to get a load. Although a return-load plan like this may trim trucking expenses, it often interferes with operating schedules and sometimes defeats the very purpose of private trucking—dependable service.

Look before you leap

Unless a company carefully analyzes its plans for operating its own trucks, it may find out that it has mounted a tiger. The hiring of operating personnel, the accounting for the many expenses involved, and the dealings with new unions may entail more time and headaches than the returns on the operation justify.

This is the warning voiced by Stephen Tinghitella, director of the Transportation Department of the Commerce and Industry Association of New York, who has worked closely with private carriers. Here is the process he recommends for deciding whether or not to operate a private transportation system.

First, decide whether to own or lease the equipment. Frequently, companies turn the problem over to transportation consultants. Although at first glance the proposed operating costs may indicate that a private fleet is the answer, further study may reveal that factors not previously considered—such as the exact pattern of traffic, Federal road fines, accidents, union and driver problems, deadhead expenses, and full-time management requirements—may tip the scale in favor of common carriage. The possibility that a teamster strike might halt production and spread to other union employees and plants is another worrisome consideration.

INTEGRATING YOUR TRANSPORTATION

In determining the extent of its transportation service, a company should include these factors in its over-all analysis:

- Scope of transportation involved—the length of haul
- Kind of equipment needed and weight to be carried by each vehicle
- Nature of the terrain and roads to be used
- Whether empty or full loads will be carried on return trips.

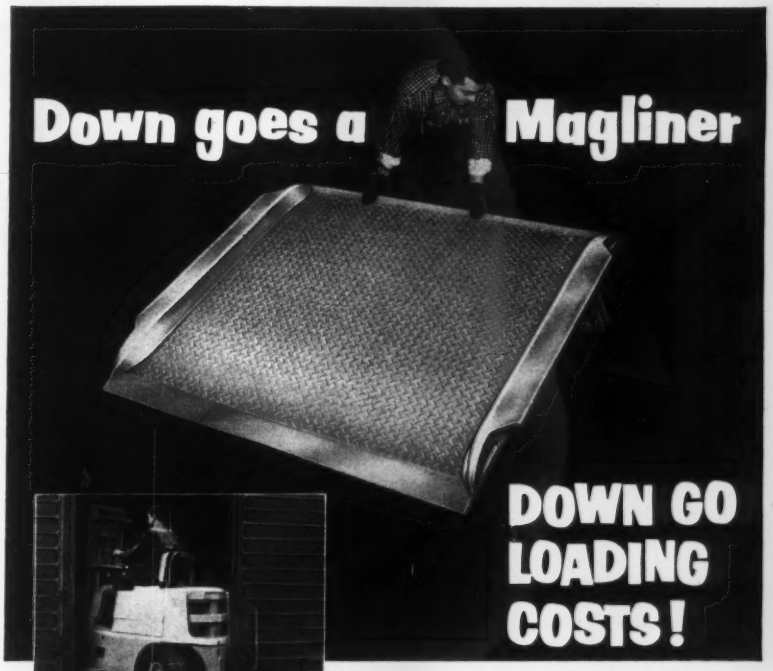
After it is decided what the service will entail, the following direct-cost components should be carefully considered:

- Initial outlay for trucks and depreciation rate
- Garage and storage space
- Clerical, operating, and supervisory personnel
- Licensing, insurance, state use taxes, Federal use taxes, and so on
- Daily expenses, fuel, oil, and so on
- Repairs and replacement of parts and tires
- Maintenance, lubrication, tools, and so on
- Painting and appearance—e.g., advertising on trucks
- Accidents and possible interruption of service
- Drivers' wages, fringe benefits, away-from-home living expenses
- Time spent by management in union negotiations and day-to-day problems.

When leasing pays off

Transportation is a business in itself, and many nuisances involved in truck ownership may be relieved through truck leasing. This method of supplying vehicles to operators is growing rapidly and is expected to increase 20 per cent this year. One nationally known rental company now has more than 25,000 trucks available for leasing. Some shippers are attracted to leasing because it:

- Frees capital for other investments
- Transfers the problems of maintenance, replacement, and repairs to the lessor
- Provides for quick additions or substitutions of vehicles when needed
- Budgets trucking expenses in advance



NARROW CONGESTED DOCK? This narrow rail dock required a flared Magliner dock board, allowing power trucks to make sharp, right angle turns.

GROUND LEVEL LOADING? Check into a Magliner mobile loading ramp—a loading dock on wheels . . . where you want it . . . when you want it. One man moves it.

PLANNING A NEW PLANT? Install Magliner Perma-Docks — the permanent magnesium dock board system. Low initial cost . . . economical installation . . . maintenance-free operation. Built-in dock loading efficiency—plus more usable dock space.

And they'll stay down with Magliner magnesium dock boards on the job! Magliners speed loading, eliminate dock congestion . . . get extra work from power trucks and other loading equipment. Costs go down and stay down because Magliners are magnesium light—easy to put down . . . easy to move. No heavy lifting . . . no injury hazards. Men, loads and equipment move *fast*, *sure*, *safe*—protected against accidents and costly damage.

Magliners are magnesium-strong too, for rugged dependable service . . . safely handle loads up to 20,000 lbs. and more Magliners are low in initial cost, provide long-life service, require less maintenance. Economy and cost savings right down the line!

Put all these advantages to work for you . . . put Magliners to work on your dock!

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Check here for information on:
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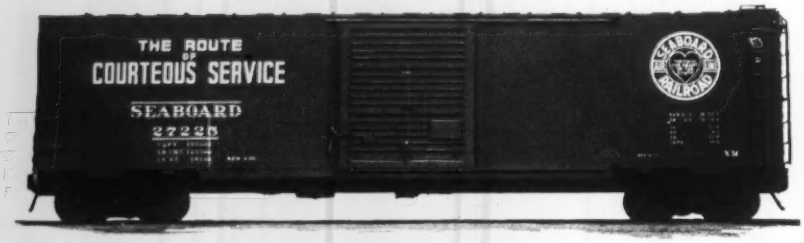

X 1,000!

One thousand new box cars — just ordered by Seaboard — will be on our rails by August.

Nailable steel floors, built-in blocking and bracing devices, roller bearings and other modern features, such as integral snubbing devices, will make these new cars among the finest ever built. Maximum protection for lading is assured by the advanced design and construction of these cars.

This $11,000,000 investment in new equipment is another evidence of Seaboard's determination to see that the transportation needs of its patrons are adequately met — and of Seaboard's deep-rooted confidence in the future of its dynamic growth territory — *the Seaboard Southeast.*

John P. Derham, Jr.
Vice President
Seaboard Air Line Railroad
Richmond 13, Virginia

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IN THE SOUTHEAST IT'S SEABOARD

THE ROUTE OF COURTEOUS SERVICE

INTEGRATING YOUR TRANSPORTATION

- Simplifies accounting, since one invoice covers the cost of licensing, permits, insurance, maintenance, and other operations
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- Keeps vehicles ready to roll, with gas, oil, and all other necessities provided.

The leasing company purchases the equipment, fuel, parts, and so on, in volume, thereby making the charge to the operating company competitive with owning costs.

Since common and contract carriers are strictly regulated by the ICC, some companies, both carriers and shippers, have dabbled in "trick leasing" in order to appear as a private carrier and be exempt from the regulation which covers rates, routes, goods to be carried, and so on. In their investigations of questionable operations, the ICC and most state commissions try to learn who actually controls the operations and drivers. If a rental company leases vehicles and supplies drivers through an affiliated company, it is presumed to be regulated transportation and not bona fide private carriage. Today's leasing regulations clearly state that common carriers may not lease equipment (including trailers) to shippers *with or without drivers*. Contract carriers may lease equipment to shippers *without drivers* upon approval of the ICC.

Recently, the ICC rejected a proposal made by a few critics of present regulations to have common carriers lease equipment to shippers. The opposition to the proposal insisted that no change was necessary and that forms of rebate would be difficult to detect. In a recent case, two private carriers contended that the ICC was not within its legal rights to investigate their carrier operations, but was limited to the safety provisions of the Interstate Commerce Act. The courts sustained the Commission's position that it has the right to investigate all carrier operations.

Tangled regulations

The maze of state laws for trucks using the various state highways irks many operators. The lack of uniform-

ity of licensing, use-taxes, permits, and size and weight restrictions places a heavy administrative burden on truck operators—thus adding to the cost of interstate trucking. Uniform state laws would certainly be a boon to operators of motor vehicles in interstate commerce.

Private carriers are eying and generally supporting the railroads' latest proposal—now before the ICC—to carry shippers' trailers (piggyback Plan III) at a flat rate amounting to a lower cost than operating over the highways. The railroads also propose to transport shippers' trailers and shippers' flatcars (piggyback Plan IV) long distances at substantial reductions compared to present rates. This service would be available to freight forwarders, shippers associations, and independent shippers who are looking into the leasing of trailers for this type of rail transportation. These plans are largely dependent upon the Commission's decision, which will be handed down some time this Summer.

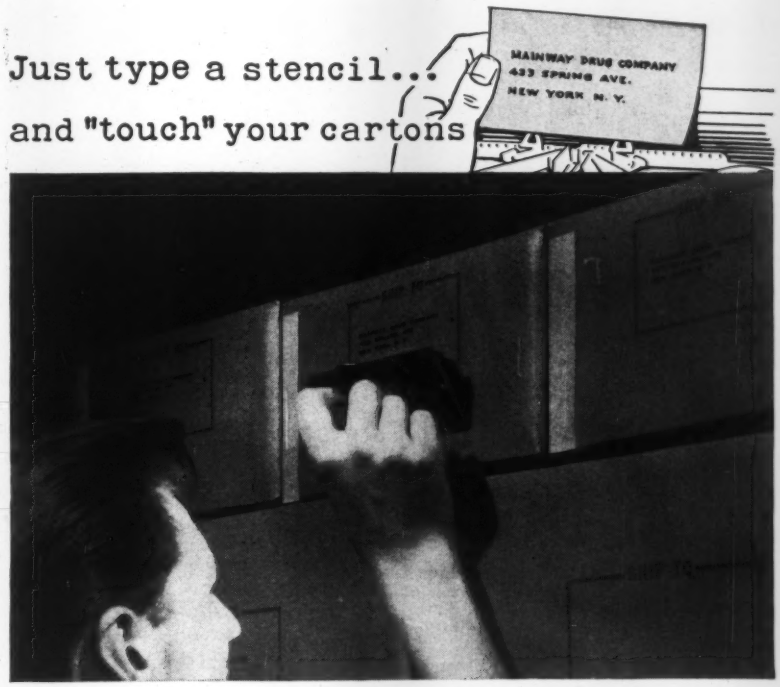
Standards to be met

Whether a company owns or leases its trucks, it still bears the final responsibility for the safety of the entire operation. The ICC has set forth safety rules and regulations for all motor transportation, including private carriers. Heavy fines are meted out when road checks turn up such violations as improper preparation of logs, faulty equipment, and poorly qualified drivers.

Delays in transit time, on-the-road repairs, and away-from-home living expenses may increase unnecessarily because of poor supervision of drivers. If the traffic manager or other executive in charge of the truck fleet goes along occasionally on a long haul, he should be able to spot bad habits and nip them in the bud.

But, despite the many problems involved in private truck fleets, there has been a continuing rise in company-operated trucking in the past decade. Shippers insist that further rate increases by common carriers will drive them even deeper into private carriage. Meanwhile, the com-

Information on company experience in private trucking was provided by Stephen Tinghitella from the workshop seminars conducted by the Commerce and Industry Association of New York.



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Shipping cartons, pre-printed with "Ship-To" label frames, are addressed by simply printing the customer's name and address within the frames with a Web-O-Print hand duplicator. It prints from a stencil that you can type or handwrite. Just a "touch" on the carton leaves a clear, sharp, permanent print.

With a smooth, one-hand motion 40 to 50 cartons can be addressed in a minute. After the shipment is addressed the stencil is thrown away, saving filing time and space.

Weber stencils can be prepared as part of your order-invoice writing procedure to save time and eliminate shipping errors. They can be cut as a by-product of forms typing on manual or electric typewriters, automatic accounting machines and other modern office equipment.

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CUSHMAN
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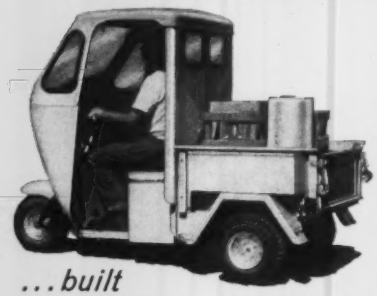

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In the coming years nearness to abundant raw materials, basic products and markets may be the difference in building a prosperous future West Virginia has many advantages for industry . . . manufacturing, processing, fabricating.

There is a good supply of skilled and versatile workers in West Virginia for new or expanding industries. And West Virginia is a great place to live with its 20 State Parks, 9 State Forests and 2 National Forests.

West Virginia

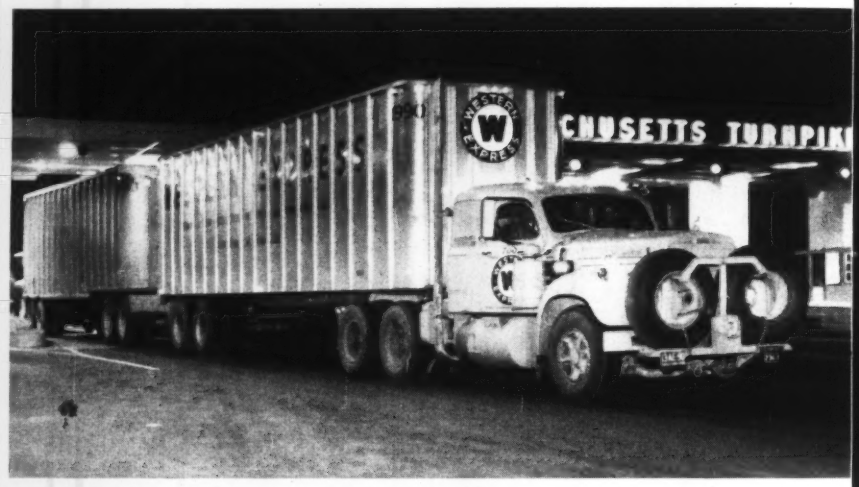
For complete, confidential information write or phone: Don Crislip, Executive Director, West Virginia Industrial and Publicity Commission, State Capitol Building, Room DR-2, Charleston 5, West Virginia.

mon carriers retort that the rate increases are, at least in part, a reaction to the widespread use of private carriage for the cream of the freight, while the leftovers—the low-rated shipments—go to common carriers.

Companies are getting together to exchange experiences in this complex area. For instance, the Commerce and Industry Association of New York has been conducting day-long workshop seminars on private fleet operations. Executives in charge of fleet operations in food, oil, drug, textile, chemical, and beverage companies attended.

INTEGRATING YOUR TRANSPORTATION

Truck Trains Cut Costs on Toll Roads



TRUCK TRAINS *now running on two toll roads in the East are helping truckers chalk up important savings by avoiding the highway limitations that hold truck lengths and weights to limits that make it difficult for them to compete with piggyback on long hauls.*

A NEW ERA in motor transportation may begin this Summer if the New York State Thruway Authority gives the go-ahead signal for regular runs of double-bottom trailer trucks, as now seems likely.

Since last February, major truckers have been taking part in an experiment to test the practicality of running these truck trains on long hauls on the thruway and also on the Massachusetts Turnpike. The rigs, which can reach 98 feet in length, are being tested for whiplash and their tracking ability on grades. Since many turnpike accidents occur when motorists come up hard on slow-moving vehicles, it's critically important that the double-bottoms be able to maintain good rolling speeds under all conditions.

According to the truckers involved in the tests, the thruways have nothing to lose and much to gain from the lengthy rigs. Most toll roads haven't received so much traffic as had been expected, particularly from commercial vehicles.

The charge for running the double rig on the thruway comes to 10 cents a mile—the same as for two separate tractor-trailer units. But if tandem turnpiking is as economical as its advocates insist, the toll roads will benefit, because most long-haul truckers will be forced to adopt this new method.

Double-bottom trailer units are not new. They have been used for a number of years in the West, where in several states over-all lengths can go as high as 65 feet. But what is new is the much greater length (up to 98 feet) and weight (65 tons) allowed by the toll roads. Since the toll roads are separate operating entities, they are not bound by the vehicle limitations imposed on the public high-

ways by the various state legislatures.

Also new is the tractor (power unit) that must churn up 335 horsepower to keep the rig running between 20 and 50 miles an hour even on grades.

The usual double-bottom used in the Western states consists of a tractor and two 25-foot semitrailers in tandem. The trailers are interchangeable in the train. This permits direct delivery at destination instead of multiple handling of shipments from long trailer, to dock, to local delivery truck.

The largest rig allowed on regular highways in any state is 65 feet and 86,400 pounds in New Mexico. Although Nevada has no limitation on the length of the rig, the maximum weight is held to 76,800 pounds.

The lengthy rigs can't run on state highways in New York, Massachusetts, or Ohio, which have over-all size limits of 45, 50, and 60 feet, respectively. Instead, the truckers operate a shuttle service between points on the toll roads, dropping off and picking up trailers at the terminal points.

The turnpike truck-train plan calls for the construction of turnaround areas at these terminal points where the double-bottoms can be split and run off by other tractors.

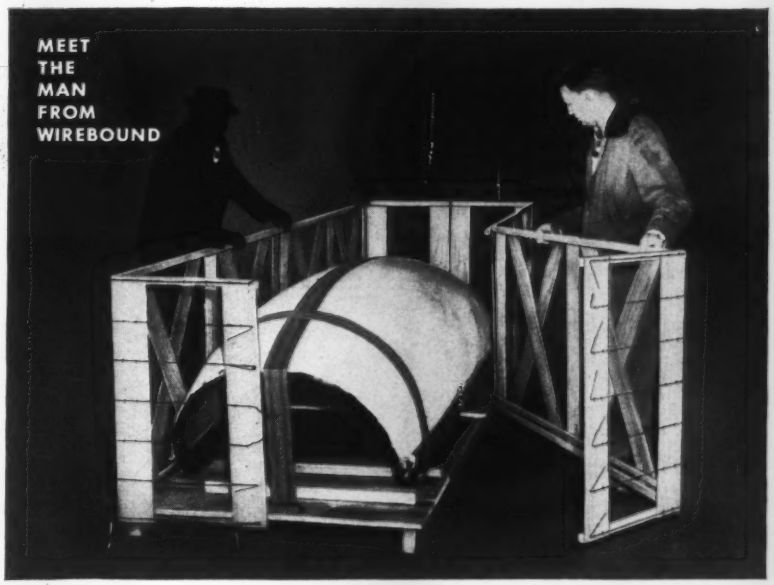
According to the New York State Thruway Authority, the results of the test runs so far have been encouraging. However, a final decision on the granting of permanent operating permission must wait until the reaction of visiting motorists can be measured.

Safety is the watchword

The six truckers that are operating the test runs are extremely sensitive to the effect of public opinion on their chances of getting running rights. They know that it wouldn't take much more than one serious accident involving a double-bottom rig to drive them off the pikes for a good many years to come, for competing carriers would play it up to arouse public ire.

The drivers picked for the test runs are accident-free veterans who are skilled in avoiding trouble. However, some scrapes are completely beyond control.

Several hundred trips have already been made on the New York Thruway, and only one minor accident has occurred. Back in April, a passenger car sideswiped and overturned the second trailer on a double-rig near



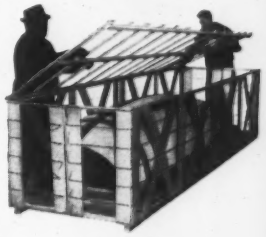
At Lockheed Aircraft Corp . . .

Jet canopies packed at 1/3 the cost ...in protective Wirebound crates

Damage-free shipment is an absolute "must" for the product you see above. Used by the Lockheed Aircraft Corp. (Marietta, Ga., plant) in its B-47 Stratojet Modification Program, it's a plastic cockpit canopy. Over 12 feet long, these canopies are valued at up to $20,000 each!

Until the Man from Wirebound arrived on the scene, these units were packed in wood crates made and assembled by hand. Today they're packed easier, faster in wholly prefabricated Wirebounds. Result: increased safety in transit . . . at a *third* of the former cost! Yes, and tare weight was cut by 117 lbs.

Savings like these typify the results *you* may achieve with Wirebounds. Custom-engineered to your product and requirements, modern Wirebound containers combine the exact strength you need . . . with maximum savings in time, labor, weight and container costs.



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INTEGRATING YOUR TRANSPORTATION

Syracuse. But no one was hurt, and the damage was limited to scraped paint.

The truckers claim that the double-bottom trucks will relieve highway congestion, because two 45-foot units would be spread over 400 feet of highway—allowing for the required interval between units—in contrast to 90 feet for the tandem rig.

Spreading the shipments

Although the truckers don't foresee any immediate rate reductions for shippers as the result of double-bottoming, they do foresee faster service, which is critical in this period of inventory consciousness.

And the benefits to the truckers are substantial. Says F. S. Thompson, vice president of The Western Express Company, one of the common carrier truckers taking part in the tests: "When you consider that on low-class, long-haul volume traffic the line haul cost may be 80 to 90 per cent of the total cost, out of which 80 per cent is for power unit and driver, the picture begins to take form. This means that on much traffic the cost of the power unit runs from 65 to 70 per cent of the total cost."

Truckers see other benefits in the extensive use of turnpikes. The higher average speed enables them to extend overnight service to more distant points, thus widening their markets, while improving schedules of

WHEN THEY *left Chicago, these two trailers were pulled by separate tractors. Joined together at Ripley, N.Y., to make an 85-foot unit, the rig enters the New York State Thruway for the 353-mile run to Albany, where the back trailer is dropped off. The remaining trailer continues on to Boston. Westbound, the procedure is reversed.*

regular delivery points. The higher speed allows the driver to cover more miles within his hours of service limits. The double-bottoms now being moved on the turnpikes are powered by sleeper cabs and manned by two drivers, who shuttle back and forth on the turnpikes for five straight days.

And, of course, fuel consumption is lower on turnpikes, and braking and shifting are reduced substantially.

Piggyback pressures

The growth of piggyback has given an important push to the drive for double-bottoming. One trucker admits that the reduced rates that the railroads have published for the movement of trailers provide a lower cost per trailer-mile than any motor carrier can possibly meet, if he must use a separate power unit for each trailer.

However, on some runs piggyback isn't able to provide the fast service offered by tandem turnpiking. For instance, to move a trailer by piggyback from Boston to Cleveland takes four days, while turnpikes provide an overnight run. Since the New York Central doesn't interchange trailer-on-flatcar freight, four railroads have to shunt the piggyback car around to get it from Boston to Cleveland.

At the present time, revenue freight is being moved on the turnpike between such points as Albany and Ripley, N.Y. (the western terminus of the turnpike) as part of a Chicago-Albany or Chicago-Boston haul. Western Express is turnpiking tandem trailers from Boston to Cleveland, while Spector Freight is handling the Chicago-Boston haul. Four other truckers are using only the New York Thruway.

Demonstration runs have been made for officials of the Ohio Turnpike. If other toll roads accept the double-bottoms, highway trains may be operating around the clock all the way from Chicago to New York in the near future.

A list of the Editorial Round Table participants will be found on the next page.

Reprints of this Special Report to Management, "Integrating Your Transportation for Profit," are available at 30 cents each from Reader's Service Department, Dun's Review and Modern Industry, 99 Church Street, New York 8, N.Y. Please send payment with order.

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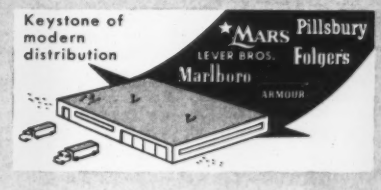

INTEGRATING YOUR TRANSPORTATION

TO PROVIDE an authoritative background for this Special Report to Management, DUN'S REVIEW editors met in day-long round-table sessions with more than 80 experts in transportation and related fields, seeking answers to one basic question: How can transportation—industry's third largest cost—be made to serve management more efficiently?

Here's the roster of participants:

New York

ROSS ANGIER, *Director, Distribution Consultant Service*, American Airlines
FRANK ASHER, *President*, Traffic Managers Institute
THEODORE R. BARTELS, *President*, Republic Carloading & Distributing Corp.
ROSS W. BENNINGTON, *Director of Traffic*, United States Rubber Company
HARRY J. BREITHAUPT, JR., *General Attorney*, Association of American Railroads
JOHN CLUTZ, *Director of Research*, Pennsylvania Railroad
J. LEO COOKE, *President*, J. Leo Cooke Corp.
E. J. DERENTHAL, *General Traffic Manager*, Radio Corporation of America
JOHN M. GILBRETH, *Manager, Operations Research*, Grace Line, Inc.
HAROLD HAMMOND, *Executive Vice President*, Transportation Association of America
GEORGE HECHT, *Vice President*, Twin Coach Company
PAUL E. HICKEY, *Sales Promotion Manager*, Lamson Corp.
BURR W. HUPP, *Principal*, Drake, Startzman, Sheahan and Barclay
R. D. JAY, *Engineering Specialist*, Engineering Service Division, E. I. du Pont de Nemours & Company, Inc.
JOHN KERSEY, *Regional Director*, Distribution Consultant Service, American Airlines
L. A. LARZELERE, *Assistant Traffic Manager*, Luckenbach Steamship Company, Inc.
GLEN MAGNUSON, Bruce Payne & Associates
J. C. McGOHAN, *General Freight Traffic Manager*, Baltimore & Ohio Railroad
L. L. MELLAN, *President*, New York Central Transport Company, Inc., New York Central Railroad
ARCHER MILLIGAN, *Traffic Manager*, Sperry and Hutchison Company
FRED MULLER, *Senior Research Engineer*, ACF Industries, Inc.
L. A. PARISH, *Vice President—Traffic*, Pan-Atlantic Steamship Company
J. W. PHIPPS, *Vice President, Charge of Traffic*, Baltimore & Ohio Railroad
JAMES PINKNEY, *General Counsel*, American Trucking Association
ARTHUR SHENEFELT, *Assistant to President*, U.S. Freight Company
DONALD W. SMITH, *Vice President*, Seatrain Lines, Inc.
DANIEL S. SUNDEL, *Regional Manager*, Piggy-Back Division, General American Transportation Corp.
CARL SWANSON, *Traffic Manager*, American Brake Shoe Company
STEPHEN TINGHITELLA, *Director, Transportation Dept.*, Commerce and Industry Association of New York
STANLEY H. TIPPETT, *Eastern Traffic Manager*, Container Corporation of America

Chicago

ARTHUR L. BERRY, *Assistant to the President*, Pullman, Inc.
MOSES BILSKY, *Vice President*, Labor Pool, Inc.
ROBERT F. BOGAN, *Manager, Special Railroad Projects*, Pullman-Standard Car Manufacturing Company
W. E. CALLAHAN, *Assistant to the Vice President*, Motor Truck Division, International Harvester Company

E. PRESTON CALVERT, *Director of Public Relations*, Pullman-Standard Car Manufacturing Company
DIODAT CLEJAN, *General Manager*, Piggy-Back Division, General American Transportation Corp.
R. S. CROSSMAN, *Senior Traffic Analyst*, Missouri Pacific Lines
A. A. DAILEY, *General Advertising Manager*, Atchison, Topeka & Santa Fe Railway System
EDWIN R. ECKERSALL, *Vice President*, Chicago, Milwaukee, St. Paul and Pacific Railroad
TOM FANTE, *Assistant Manager, Specialized Operations*, Southern Pacific Company
C. J. FITZPATRICK, *President*, Chicago and North Western Railway Company
WELBY M. FRANTZ, *Executive Vice President*, Eastern Motor Express, Inc.
A. S. GANTNER, Truck Lease Division, The Hertz Corp.
MILTON GARFIELD, Spector Freight System, Inc.
H. D. GOBRECHT, *Assistant to Vice President—Traffic*, United States Gypsum Company
WILLIAM E. HAYES, *Executive Assistant to the President*, Rock Island Lines
S. E. HEYMANN, *Manager, Market Research*, Signode Steel Strapping Company
T. C. HOPE, *General Traffic Manager*, Montgomery Ward & Company
I. V. KIMBALL, *Transportation Manager*, National Cylinder Gas Division, Chemetron Corp.
WILLIAM V. LAYMAN, *Assistant Traffic Manager*, Union Pacific Railroad
O. K. LEBRON, *Vice President*, Truck Lease Division, The Hertz Corp.
SAM LEE, *President*, The Lee Fleet System
N. MANKEY, *Production Manager*, Link-Belt Company
ROBERT McILROY, *Traffic Manager*, Link-Belt Company
F. L. O'NEILL, *General Traffic Manager*, Minnesota Mining & Manufacturing Company
HAROLD T. REED, *Director of Transportation*, Line Material Company
C. M. RODDEWIG, *President*, The Association of Western Railways
RALPH B. ROGERS, *General Superintendent, Distribution Planning*, Transportation Department, Standard Oil Company (Indiana)
HAL M. SIMS, *Public Relations Director*, The Association of Western Railways
EDMUND A. SMASON, *Public Relations Counsel*, The Hertz Corp.
WILLIAM L. SNELTJES, *Vice President—Sales*, North American Van Lines
T. C. STEWART, *General Traffic Manager*, Zenith Radio Corp.
JOHN TARTE, *Office Manager*, Highway Trailer Company
C. E. WARD, *Freight Traffic Manager*, Southern Pacific Lines
P. E. WATSON, *Traffic Analyst*, Missouri Pacific Lines

Detroit

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DALE A. BROWN, *Director of Public Relations*, Jervis B. Webb Company
JOHN C. CAMPBELL, *Sales Manager*, Detroit Diesel Engine Division, General Motors Corp.
H. E. CHAPMAN, *General Traffic Manager*, S. S. Kresge Company
TOM FANTE, *Assistant Manager, Specialized Operations*, Southern Pacific Railroad
PAUL FINAZZO, *District Manager*, The Flying Tiger Line
DONALD B. GILL, *Traffic Manager*, Kelvinator Division, American Motors Corp.
DANA KELLY, *Public Relations Director*, The Flying Tiger Line
THOMAS KIMMERLY, *General Traffic Manager*, Burroughs Corp.
GEORGE D. KNEPPER, JR., Clark Equipment Company
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RICHARD L. SCHMALLE, *Director, Office Methods Research*, Consolidated Freightways, Inc.
HENRY J. SCHROEDER, *Freight Traffic Manager—Rate Research*, Chicago and North Western Railway Company
WILLIAM F. SELAK, *Traffic Manager*, Fenestra, Inc.
JAMES SULLIVAN, *General Agent*, Chicago and North Western Railway Company
JAMES H. SUTHANN, *Assistant Freight Traffic Manager—Sales*, The Chesapeake & Ohio Railway Company
FOSTER L. WELDON, *Director of Research*, Matson Navigation Company

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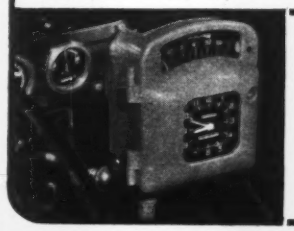

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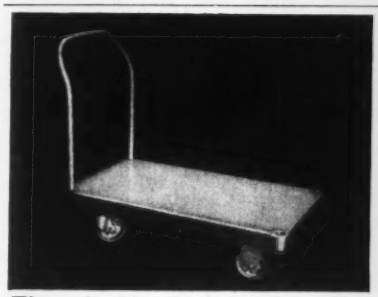

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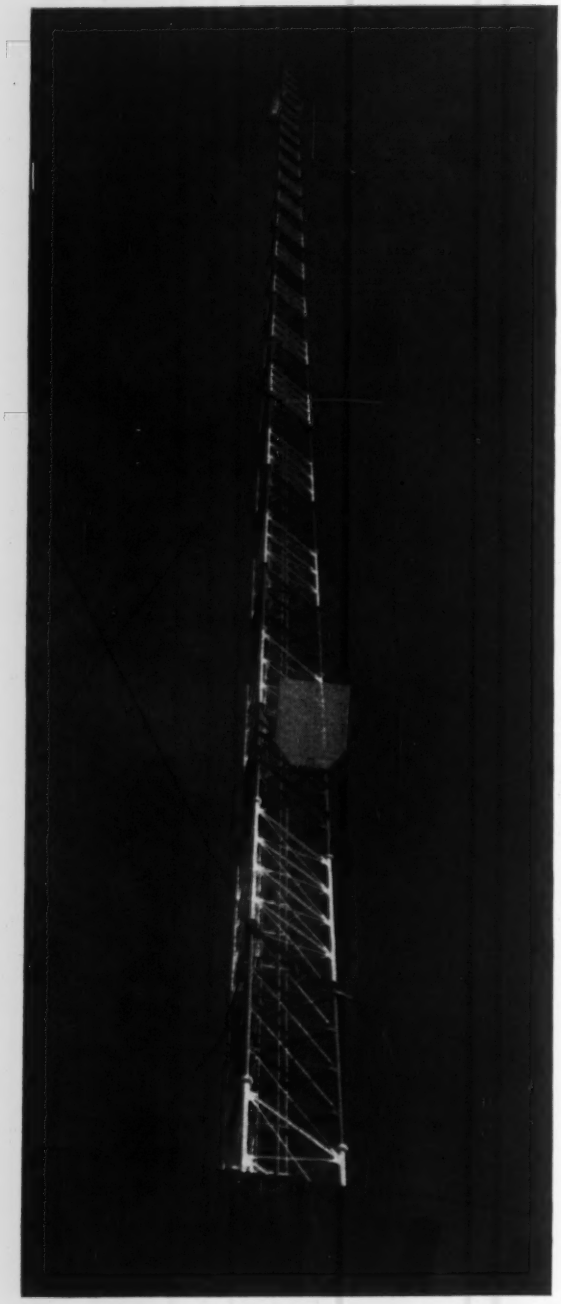

This new tower for station WIS-TV near Columbia, South Carolina, illustrates the point. It is the tallest man-made structure east of the Mississippi—1,526 feet high. If built with conventional construction, it would have weighed about 1,353,333 pounds. But by designing with USS MAN-TEN High-Strength Steel, the weight was cut to 1,015,000 pounds—a clear saving of 25%.

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These steels are also widely used for stationary equipment. They *do* cost more per pound than conventional construction, but fewer pounds are needed. Every extra dollar spent is paid back quickly in greater carrying capacity, lower maintenance, less down-time and longer life. Write for more information. United States Steel, 525 William Penn Place, Pittsburgh 30, Pa.

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TV tower for station WIS-TV near Columbia, South Carolina. 25% lighter in weight and lower in cost than if built with standard material. Designer, Fabricator and Erector: Kline Iron & Steel Company. Owner: The Broadcasting Company of the South.

Managing Your Manpower

LAWRENCE STESSIN

▶ ***The technical talent hunt is on again, with new lures dangled before the trained technician.***

▶ ***"Pirates in gray flannel suits" flourish; no-raiding agreements go by the board.***

Open Season on Engineers

A sleek Beechcraft sped in for a smooth landing at a Los Angeles airport one afternoon last month. Out stepped the plane's four passengers—a bustling, middle-aged executive complete with attache case, and three neat, clean-cut "just out of college" types. The three young men, June graduates, were being given a royal recruitment treatment by a manpower-hungry electronics company.

An accelerated ivory hunt for technical talent is now in full swing. The reason? The sudden revival of the economy from its 1958 doldrums has caught many companies short of trainable talent needed for expansion. Complicating the problem is the necessity of filling vacancies created by regulars who, emboldened by the rising business index, have harkened to the call of "a better offer" from some other manpower hungry company.

Last year marked a low point in job turnover among engineers, scientists, and technically oriented specialists. The recession caused many companies to cut back on training and recruitment programs for college grads. Recruiting staffs were pared, and many talent scouts found themselves on the other side of the interviewing table. The business setback also revived some homely virtues in the job-seeking collegian. The "world is my oyster" attitude gave way to a refreshing display of humility.

So far this year, the job market for college graduates has increased 17 per cent, according to a report from the National Industrial Conference Board, and if the current pace of business improvement continues, the shortage of college-trained personnel will once again be acute.

Recruiters wonder whether the resurgence of active campaigning will revive some of the "hard sell" techniques which characterized the scramble for personnel up to 1957. Indeed, before the recession slowed the recruiting drive, there were demands for "a code of ethics" to curb some of the eyebrow-raising procedures employed even by the most highly respected companies.

For example, a standard method for recruiting college grads is for the company to offer an interested applicant a visit to the home or field office, all expenses paid. Some of these interview trips took on the color of a joy ride. One company recruiter arranged such trips so that the young candidates could spend a weekend in New Orleans, New York, or Chicago, touring the night spots before having to face the harsh reality of an interview with an executive who was anxious to fill his manpower quotas. This wining-and-dining approach came a cropper when a half-dozen of the recruits got out of hand in New Orleans and spent a night in jail. The newspapers picked up the story, and there were frantic calls from wives and parents demanding that the company send the revelers right home.

Then there is the student who makes a virtual career of traveling around the country—on the cuff—with no intention of accepting a post. There's a name for him, in fact—he's called a "recruiting bum." One young man, who was graduated with honors in retailing, sat down last May and wrote a dozen letters of application to as many prominent department stores around the country. His record was good, his references excellent. He immediately received offers from ten stores to "come out and see us at our expense." Our hero, who had been engaged, promptly got married and bought a

Fringe Binge

Ever stop to figure how much fringe benefits cost your company? Timken Roller Bearing Company, Canton, Ohio, did and came up with some frightening figures on hourly costs.

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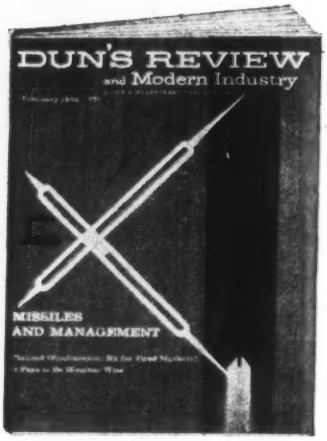

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convertible. He took a leisurely tour with his bride, stopping off for interviews en route. In each case, though he was acceptable to the company, he found the offers inadequate. Later he confessed to a friend, "I'm going into my father's business. All I really wanted was a free honeymoon."

An offshoot of the college recruiting problem is the scamper for experienced men. Pirating is an ugly word in management circles. To put an end to this corporate body snatching, several trade associations have drawn up "gentlemen's agreements" in which member companies resolve not to lure engineers and scientists from each other's establishments. Many of these have turned out to be tissue-paper pacts. So much so that, after a couple of years of attempted enforcement, the Aircraft Industries Association decided to abandon its "no-raiding" resolution.

"We're going in and slug like the rest of them," one vice president of manufacturing said. "We had a policy of not hiring engineers who were working for other companies. But we found that we were the only ones living up to the understanding. Why, the other day I found out that the fellow with that fancy station wagon parked outside our gate every evening was a personnel man from another outfit. He was taking our men for interviews by the wagonload. A pirate in a gray flannel suit, that's what he is."

Actually, this management man has a canny recruiting gimmick of his own. It happens that his corporation has a small fleet of company planes for dispatching brass quickly to branch plants. When a talent scout spots a college grad or an experienced man in a far-off city, a company plane is sent to bring the applicant in for an interview. These planes are used mostly on weekends so that interested job prospects can be flown several hundred miles back and forth for talks and still show up for work on Monday morning—presumably to give notice.

No ground is sacred when it comes to manpower pirating. Conventions, trade shows, management seminars, country clubs—all are recognized poaching areas. Companies encourage manpower recruiters to join golf clubs and to polish up their sales talks for that nineteenth hole pitch.

"I'm afraid to send my men to a convention," an executive lamented the other day. "They might be grabbed off. Company scouts register at these

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send for literature

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"Minute Man" hanger bar and shelf can be lowered for children's use.

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meetings as technicians and then begin to buttonhole prospects. Got a couple of offers myself at our last convention in New York. I didn't know the situation was *that* desperate."

Personnel Pointers

Lunchtime losses: A bad habit, but a popular one, is for employees to knock off for lunch five or ten minutes before their scheduled time. The management of the Switchgear Department of the General Electric Company plant in Philadelphia decided to put a stop to lunch-jumping with a combination of cold statistics and a timely warning. Said the company in a communication to its non-hourly personnel:

"A five-minute loss at lunch hour results in 400 wasted hours a day. In a year, this snowballs into a staggering total of more than 100,000 hours, or $250,000 in lost time. If this situation continues, it might be necessary to reinstitute time-clocking 'in' and 'out' for the lunch period."

"I protest": There's nothing quite so dampening to an employee's morale as to have his suggestion turned down by a screening committee. Soo Line Railroad in Minneapolis gives the employee a chance to argue it out with the suggestion system overseers. All an employee has to do is to take a blank sheet of paper and tell why he thinks the committee is wrong. Then he is entitled to a hearing to fight for the adoption of his idea.

Incentive: A week off with pay is the wedding present given employees at the Schering Corp., Bloomfield, N.J. Hitch: Employee (male or female) must promise to return to the job.

What am I bid? Hughes Aircraft Company, Culver City, Calif., doesn't trade in its used or surplus company cars. Instead, it sells them to employees on the basis of the highest sealed bids. Autos for sale are displayed on company parking lots for worker inspection.

Good old Summertime: June through August is picnic time for industry. The National Recreation Association says that 70 per cent of American companies hold employee picnics. In the majority of cases, the company foots the bill. Average cost per employee: $2 for small companies, $1 for large. Saturday is the most favored day for industrial picnics, with Sunday running a close second. Weekday picnics with pay are a rarity.

No call, no pay: The union contract at Wallace Silversmiths, Inc., Wallingford, Conn., provides that failure of an employee to advise the personnel department of a change in his address or telephone number relieves the company of any obligation to pay him for reporting to work when no work is available.

Early birds: White-collar workers like earlier starting and quitting hours in the Summer. At least that's what the Dow Chemical Company, Midland, Mich., found in a survey it recently conducted. Result is new Summer hours for Dow's white-collar people: 7 A.M. to 4 P.M.

Labor Relations Casebook

● Can you refuse to rehire an employee on the basis of the results of a physical examination?

When business improved, several employees of the Columbia Packing Company were recalled to work. However, management insisted that each one be required to take a physical exam. Jim Evans was found to have "a serious case of varicose veins" and denied rehire. He filed this grievance:

"1. I've had this condition for ten years, so you can't use that as an excuse for letting me out.

"2. You have no right to subject me to a physical exam. I'm not a new employee. I'm an old-timer."

The company countered:

"1. These exams are for the employees' own protection. What if a worker developed a heart condition during a layoff and didn't know it?"

Was the company right or wrong?

John A. Hogan, called in to settle this dispute, handed down the following ruling:

"The company may give physical examinations to employees on their return from extended layoffs, but the results may not be used to deprive them of their jobs where: (1) the work was satisfactory before the layoff, (2) the physical defect was present at the time of the layoff, (3) no deterioration of the ailment has taken place, (4) no clear and present hazard is shown."

● When a production cutback forced the Phoenix Iron and Steel Company to shut its plant, the management asked the workers to take that period as a "paid vacation." The workers refused. They maintained that the company cannot tell the employees to take their vacations all together, because in the past the men were free to choose their own times in accordance with their seniority.

Management retorted that this was not a normal situation. The plant shutdown made it necessary to reschedule vacation periods.

Arbitrator Donald A. Crawford didn't agree with the company's stand. He ruled that the employer could not veer from established practice, particularly since the union agreement did not provide for any alternate method of scheduling vacations.

● Can you force a worker to do personal chores for an executive?

When Harry Alvin was told by his supervisor to go over to the vice president's house and mow the lawn, he refused.

"You better go or else," the supervisor threatened.

Harry didn't budge and was disciplined in consequence.

At arbitration, the company stood on the principle that management has a right to direct its workforce and can assign a worker to any task that does not endanger his safety or his health.

Arbitrator Louis A. Stone took another view. He said:

"Management's right to direct its workforce is limited to matters concerned with the conduct of the plant only. Mowing a lawn for a vice president is not a plant matter, and the worker had a right to refuse."

● The company had a policy which gave employees three days off for death in the immediate family. When an employee's half-brother passed away, the worker took three days' funeral leave. Come payday, he was docked for the absence.

The company claimed that a "stepbrother" is not in the "immediate family." The worker argued otherwise, and took his complaint up through the company's grievance machinery.

Did he win or lose his case?

He won. Arbitrator Joseph Klamon held that a half-brother has a blood tie and must be considered as a member of the immediate family. Klamon also cited state law which regards a half-brother as a brother for inheritance purposes. END

New Papermaking Process cuts Bond costs at least 10%

FINCH BOND

First Bond paper ever made principally from Northern hardwoods — at the lowest cost ever, for a Bond this good!

WHAT MAKES IT POSSIBLE: For the first time in papermaking history, the tough, white fibers of select New York State hardwoods have been locked together to form pure, white *economical* Bond paper.
A new process, just developed at Finch, Pruyn, produces this money-saving neutral sulphite sheet chiefly from Finch, Pruyn's own forests and from birch, maple and beech in neighboring woodlands. New Finch Bond handles, prints and LOOKS better than you'd believe possible at the price!

- **WHITER!**
- **MORE OPAQUE!**
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16 and 20 lb. Cut sizes including 8½ x 11 and 8½ x 14

INVESTIGATE...

Only an actual test will convince you that so good a sheet can cost so little. Write today for generous sample kit.

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Please send me samples of the new Finch Bond.

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ADDRESS.....
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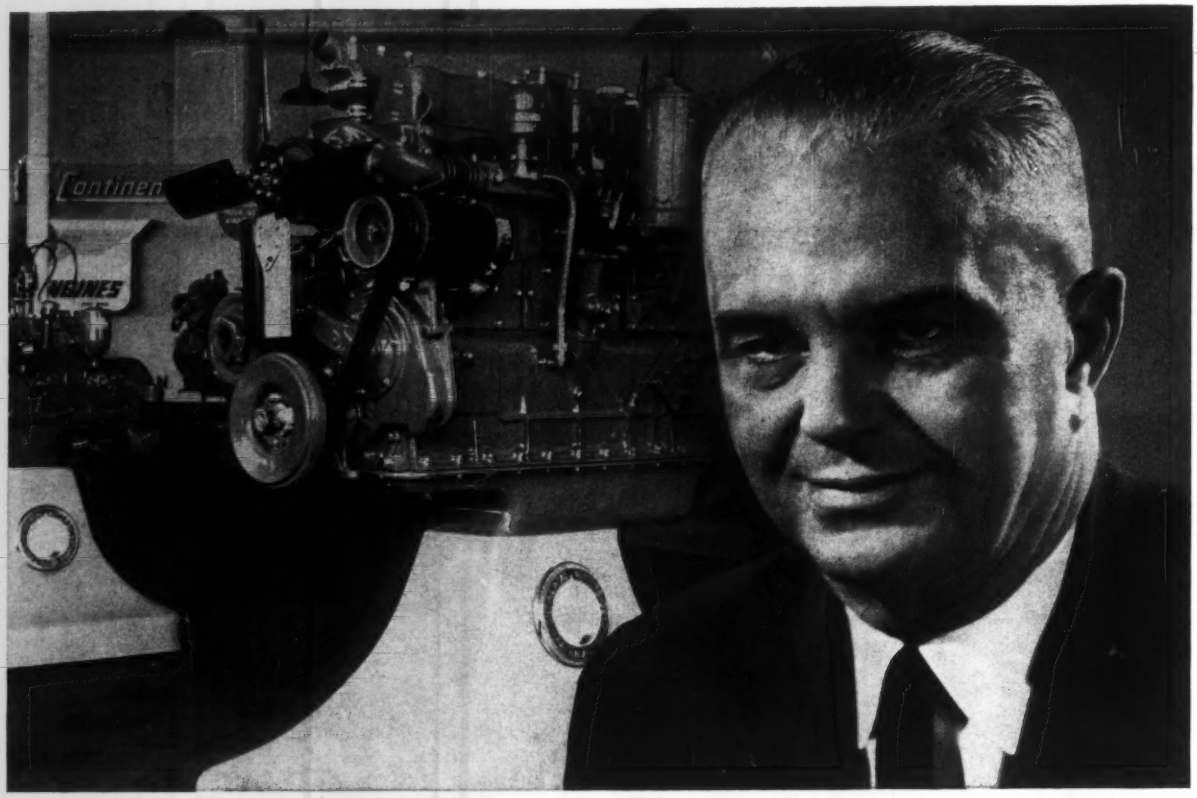

"Heller working funds enabled us to weather the stormiest period in our history"

says, C. J. Reese, President, Continental Motors Corporation

"The use of a Heller Working Fund Program was a turning point in the history of our company," says C. J. Reese, President of Continental Motors Corp.

"When our major customers started to manufacture their own motors, we had to look for new markets. This meant a major shift in our product development, marketing and production. Heller funds and services helped us through this rough period, gave us the cash we needed to continue operating efficiently and profitably. Heller funds served the same purpose as operating capital, enabled us to build our organization and sales to new highs."

Continental Motors Corporation, today, is the world's largest independent manufacturer of motors for the industrial, aircraft, marine and transportation industries. Sales have grown from a few million dollars (when Heller funds were made available) to more than 100 million dollars annually. Continental Motors has outgrown the need for Heller funds, but like more than 10,000 other past Heller clients, has been helped to financial independence and increased profits through a Heller modern financing program.

How does Heller do it . . . by providing individually designed programs exactly fitted to a company's financial problems. Heller modern financing programs are extremely flexible and provide advantages that other types of financial assistance cannot match.

If your company can see opportunities for increased profits through the use of additional working funds, why not learn the facts about Heller modern financing? Write for a free copy of "Operating Dollars For Every Business" and for specific information pertinent to your own situation. Your inquiry will be treated in confidence and without obligation. Address L. A. Peterson, Vice President for prompt reply.

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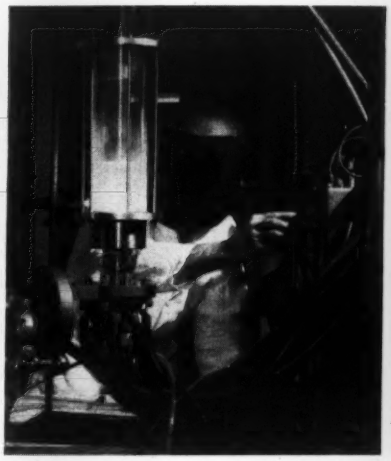
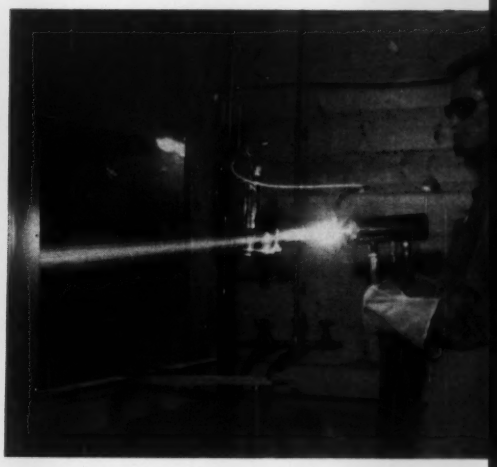
"Putting on the Heat"

TUNGSTEN-COATING *a missile nose cone with a Linde plasma arc torch. Ear muffs protect the operator from the arc's scream.*



TESTING *a tantalum-carbide sample in an 18,000° F plasma jet flame at Stanford Research Institute, Menlo Park, Calif.*



BUILDING UP *a metal part with powder deposited by plasma flame at Thermal Dynamics Corp. Temperature: up to 30,000° F.*

THE GODS on Mount Olympus must have been looking uneasily into the future when they condemned the Titan Prometheus for bringing fire to the human race. Ever since that day, man has been learning to make hotter and hotter flames, until now a few companies have gone into production on a new species of torch that doubles the best efforts of the sun god Apollo!

The list of companies that are playing with the 30,000° F fire of the plasma jet reads like the "400" of industry. The box at right shows some current applications.

In the new torch, gas is blown through an electric arc, coming out in the fourth state of matter—"plasma," or molecules that have lost all their electrons. At the very center of the electric arc, the plasma is twice as hot as the sun's surface.

The German scientist Gerdien first conceived of a plasma torch back in 1920, but it has taken decades to perfect it. A number of laboratories have built hand-made torches, and three American companies are now manufacturing them. The Linde Company, a division of Union Carbide Corp., Speedway, Ind., does not plan to sell its production, but offers to perform services for industry with plasma jets. Giannini Plasmadyne Corp., Santa Ana, Calif., and Thermal Dynamics Corp., Hanover, N.H., make them for sale. Typical price: around $10,000.

Coating and spraying refractory materials by plasma jet is already well established. The refractory is fed in wire or powder form into the flame, which propels it at enormous velocities against the material to be coated. If a thick enough coating is deposited on a brass shape, the brass can be eaten out by acids, leaving accurately shaped refractory parts.

Experiments show that a plasma jet easily cuts nonferrous metals instead of burning them as other "cooler" torches do. The plasma jet can also "crack" gasoline, according to H. S. Ingham, president of Plasma Flame Corp., Westbury, N.Y.

Jobs for Plasma Arcs

- **apply refractory coatings**
- **build up parts out of hard-to-work materials**
- **cut, shape, or join non-ferrous metals and other materials**
- **purify and refine metals**
- **process chemicals**
- **synthesize new materials**
- **create new alloys**
- **test high-temperature materials**

The chemical industry is extremely interested in the ultra-high plasma temperatures. According to Dr. C. L. Arnold of Stauffer Chemical Corp., chemical processing is pushing into higher and higher temperatures.

Although they are by far the hottest of commercial firebreathers, plasma jets are not the only new way of putting on the heat. A number of solar furnaces are being used or built around the country. These devices concentrate the rays of the sun to a tiny point. Because no gases are required, solar furnaces do not contaminate the sample. However, they can't achieve temperatures much higher than 5,000° F.

Stauffer-Temescal Company, Richmond, Calif., has developed an "electron-beam melting process." Electrons, shot at a target in a vacuum, melt drops of the material, which fall into a crucible. The first one was sold to Wah Chang Corp., Albany, Ore.

The plasma jet is not the crowning achievement in the search for higher temperatures. Scientists investigating the fundamental process of nuclear fusion have created temperatures in the millions of degrees—but only for a millionth of a second. While waiting for such fantastic temperatures to be produced continuously and contained, industry has a big job on its hands in exploiting fully the powerful flames of the plasma jet. —M.M.

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Profit from Yoder's years of engineering and service experience. Send today for the illustrated Yoder Roll Forming Equipment Book.

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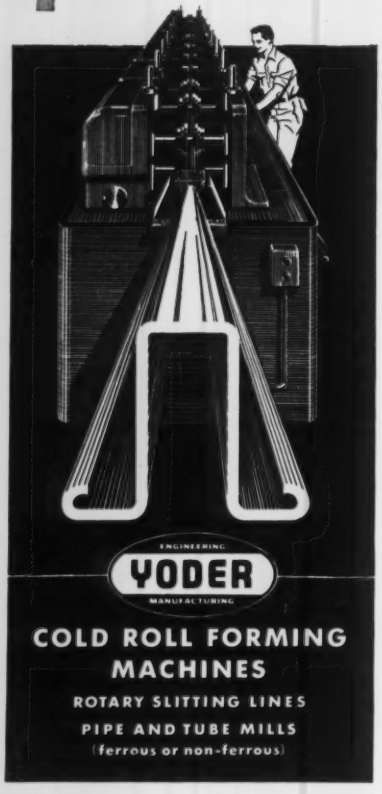
5531 Walworth Ave., Cleveland 2, Ohio



Capital Views & Previews

Attorney General William P. Rogers explains . . .

How Antitrust Guards Free Enterprise

PAUL WOOTON

NOTHING contributes more to a vigorous and robust private enterprise system than antitrust laws—but they are not the best approach to the problem of restraining labor union abuses. That's the opinion of U.S. Attorney General William Pierce Rogers, as expressed in a recent interview with a DUN'S REVIEW editor.

In Rogers' view, the problem of labor monopoly ought not—as some business leaders have suggested—come under the jurisdiction of the Department of Justice. He points out, however, that the present antitrust laws do apply to labor unions as well as to management when there is actual conspiracy in restraint of trade, and that unions which organize a business must follow the same rules laid down for business men. The antitrust laws apply, too, when a union combines with a non-labor group to effect a direct commercial restraint. The Department of Justice also has challenged groups misrepresenting themselves as labor unions. Other union activities which may be in violation of antitrust laws are currently being investigated by the Department.

Some labor problems, however, fall outside the province of the Justice Department and must be handled by other agencies, Rogers explains:

"Congress has specified in Section 6 of the Clayton Act that the labor of a human being is not to be deemed a commodity for antitrust purposes. The Taft-Hartley Act provides for industry-wide bargaining, whether by employers or employees. Also, under the Taft-Hartley Act, Congress has made it clear that secondary boycotts are to be limited. If the area of prohibited boycotts is to be altered, it would seem that this should be done by amending this Act."

Antitrust statutes aimed at prohibiting practices which retard free competition have been an important factor in the remarkable development of American business and industry, the Attorney General asserted. In this era of mergers, tighter competition, and increased labor pressure, many people in industry and Government who share his belief are urging the Attorney General's office to use its antitrust machinery to curb what they consider to be new assaults on free enterprise.

For merger notification

Some business men have contended that a bill now before Congress, which would require companies to notify the Government in advance of a merger, might prevent harmless or desirable mergers from being effected. The Attorney General disagrees. The

William P. Rogers

notification proposals, he points out, have included time requirements varying from twenty to 50 days. And, since most mergers take not less than 90 days to consummate, the consummation would not be delayed by pre-merger notification.

The information which would be required in the notification, Rogers also says, is the sort of data companies already have gathered in considering the merger. Notification of a merger would be held in strict confidence by the Justice Department. The bill endorsed by the Department also contains provisions for exempting from the notification and waiting requirements the great bulk of mergers having no competitive significance, and mergers that might be spoiled by delay.

Rogers believes that unless a company engages in unlawful or restricting activities, it should not be hampered in its growth by mandatory size restrictions. "Size alone," he says, "is not, and should not, be considered to be illegal."

Watching price policies

Should the Government take a hand in the problem of "administered" prices? Rogers says his Department can and should do something about it "only when the prices ultimately arrived at result from a monopoly or some form of unlawful agreement or understanding. The difficulty is in determining in any given case whether or not market prices are being set by illegal means. The follow-the-leader type of price fixing presents one of the most difficult problems with which the Department has to deal."

Most of the antitrust policing is done by business itself, Rogers observes, since most of the cases grow out of complaints. The Attorney General believes that the fact that the Government has won 90 per cent of its cases proves his Department has used good judgment in the suits it has brought in matters involving restraint of trade. Fifty per cent of all antitrust cases involve the so-called cost-of-living items.

Despite the continuing need for improvement in the nation's law enforcement, the 46-year-old Cabinet officer concludes, on the basis of his twenty years as a public law official, that "this country has developed the most successful machinery for achieving justice ever devised." END

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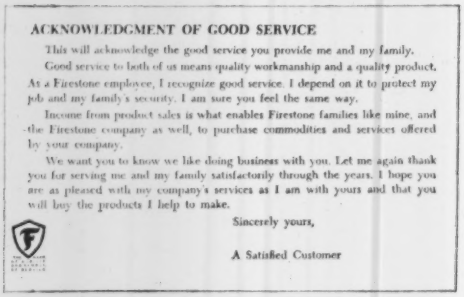
IDEAS at Work

It Pays to Say "Thanks"

Could your workforce double as an effective customer relations team? Such a plan has helped to build sales and community good will and to secure the jobs of workers in Firestone Tire and Rubber Company plants.

All Firestone employees and their families were asked to cooperate with the company by distributing printed



ACKNOWLEDGMENT OF GOOD SERVICE

This will acknowledge the good service you provide me and my family.

Good service to both of us means quality workmanship and a quality product. As a Firestone employee, I recognize good service. I depend on it to protect my job and my family's security. I am sure you feel the same way.

Income from product sales is what enables Firestone families like mine, and the Firestone company as well, to purchase commodities and services offered by your company.

We want you to know we like doing business with you. Let me again thank you for serving me and my family satisfactorily through the years. I hope you are as pleased with my company's services as I am with yours and that you will buy the products I help to make.

Sincerely yours,

A Satisfied Customer

cards of appreciation to the business concerns and tradesmen with whom they deal. The cards (see above) acknowledged the good service offered by these concerns and reminded the business men to consider Firestone products whenever they had need for an item which the company manufactures.

A supply of the cards, together with a letter from the plant manager, was mailed to each employee's home. The letter explained that the program would boost sales, thereby insuring the worker's job. Personnel in all Firestone stores were asked to distribute the cards to their regular customers.

The campaign turned out to be a remarkable success. Requests for extra cards came in from employees all over the country. Other companies, even competitors, expressed interest in adopting the program. Milk companies, cleaning establishments, and other service businesses that received the thank you cards passed them along to the route men who serviced the Firestone families.

Other family suppliers requested cards, which they, in turn, passed on to their own suppliers.

A Community Affair

An ambitious nationwide program has been launched by the United States Steel Corp. to widen its consumer market by reminding the citizens of its plant communities of the vital stake they have in local steel production and sales.

The project, which was pilot-tested recently in three U.S. Steel plant cities in the Birmingham, Ala., district, proved so successful that similar events are being planned in other key steel centers across the country.

Merchants, civic, industrial, union, and government leaders in the cities of Ensley, Bessemer, and Fairfield, Ala., took part in a three-day celebration of "Steelmark Days—A Salute to the Men of Steel."

Dealers tagged all of their products made of steel with the "Steelmark" emblem, which has been developed by U.S. Steel and made available to the entire industry, as well as to manufacturers and dealers, in order to stimulate a buying preference for consumer items made of steel.

Special window displays of the tagged items (see photo below) and heavy newspaper advertising tied in with the salute to steelworkers resulted in record-breaking sales for the 500 participating merchants. Leading department stores reported their total sales ran from 22 to 69 per cent above normal, and appliance and hardware dealers reported sales were up more than 100 per cent during the event.

The company's market development specialists from Pittsburgh spent two months working out preliminary arrangements with the top management of U.S. Steel's Tennessee Coal and Iron Division headquartered in Birmingham.

The Chamber of Commerce in each town organized exhibits and parades with floats depicting the uses of steel. Banners saluting the "Steelmark" and the steelworkers were strung across the main thoroughfares. Colorful companion posters saturated the entire area.

Radio, television, and press buildups began early and were timed to climax on opening day. Local newspapers ran special sections and enlarged editions containing appropriate features. Both the mineworkers and steelworkers unions gave their full support to the endeavor. Locals bought advertising and provided radio coverage of parades.

In addition to offering its know-how, U.S. Steel arranged special plant tours. The TCI Division even moved up its payday to give employees every opportunity to buy steel products. Three television performers who deliver the commercial messages on the *U.S. Steel Hour,* the company's network television program, were on hand to add a touch of glamor to the occasion.

Getting the Show on the Road

Spreading the word on profits and products was made easier for Koppers Company top management by the use of a special roadshow exhibit.

The 130-foot panel exhibit (see photo) was collapsible and could be transported easily by truck, train, or

plane. It was designed to tell the story of Koppers' wide variety of products, how and where they are developed and produced, and how they are marketed.

Traveling with the exhibit on the eight separate weekend trips to Los Angeles, Pittsburgh, Houston, Birmingham, New York, Chicago, Baltimore, and Verona, Pa., were Koppers' president Fred C. Foy and heads of the marketing and research and development departments.

Koppers plant managers in each area were invited to the four-hour meetings. The purpose was to give them a better understanding of the company's products, sales potential, and total financial picture. A question period followed. Questions asked most frequently and the answers to them will be printed in *Koppers' News*, the company employee publication. After each meeting, President Foy was the host at a reception for the plant executives.

Modern-Day "Man Friday"

Here's a way to free highly skilled researchers from burdensome administrative detail and allow them to concentrate on doing more creative work.

In U.S. military laboratories and development centers, a "man Friday," usually a college graduate, is assigned to perform the administrative tasks for several research teams. The Defense Department thinks the plan has improved the morale and effectiveness of the engineering and scientific personnel and should be extended to all industrial R&D laboratories.

Dual-Purpose Containers

Urethane-foam shipping containers can do more than protect delicate parts in transit, as one rocket-engine manufacturer is discovering. The containers, made by Dayton Rubber Company, Dayton, are first sent down the assembly line, where they serve

...why not look at the record of this Canadian Banking connection?

You look at the record . . . and weigh the facts . . . before you make *any* decision.

When the decision involves a Canadian banking connection, this review of the record becomes doubly important.

That's why—if you need the services of a Canadian bank—we'd like you to look at *our* record. Just as we have for hundreds of other clients, we can give you the advice you need—provide the answers you want—quickly, accurately, and surely.

For example, are you planning to expand your business to Canada? The Toronto-Dominion Bank can advise you on Canadian customs, regulations and incorporation procedures . . . help you find an ideal plant site . . . choose the right distributors . . . provide an accurate picture of the market prospects for your product in *any part* of Canada. Because "The Bank"—with more than 500 branches coast to coast—*knows* Canada and Canadian local buying habits intimately.

That's why we say, "Look at our record!" Write or call us today and we'll send you a copy of our brochure, "The Bank That Knows Canadian Business."

THE TORONTO-DOMINION BANK

Write, call or wire Mr. F. G. Cleminson
Head Office: Toronto, Canada

New York Agency:
28 Broadway, New York 4, N. Y.
Chicago Office:
30 W. Monroe St., Chicago 3, Ill.

Perhaps it's time for a fresh design and a bright new **WESTON** *paper*

Your printer, advertising agency or letterhead designer will gladly suggest a new design and a paper of appropriate quality from the complete family of Weston cotton fiber letterhead papers — including Old Hampshire Bond (Extra No. 1, 100%), Defiance Bond (100%), Winchester Bond (50%), Weston Bond (25%) and Weston's Hand Weave (25%). Write Dept. DR for samples.

BETTER COTTON FIBER PAPERS

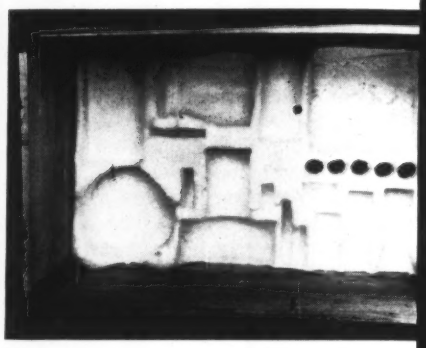
Better Papers are made with cotton fiber

BYRON WESTON COMPANY
Dalton, Massachusetts
Makers of Papers for Business Records Since 1863

WESTON PAPERS • PROTECT YOUR RECORDS •

WESTON PAPERS

Leading Makers of: LETTERHEAD PAPERS • POLICY PAPERS • LEDGER PAPERS • INDEX BRISTOLS



as assembly jigs. At the end of the line, an inspector can easily tell if all the parts have been included by checking to see if all the cavities in the foam are filled.

Killing Time Profitably

Those minutes suppliers' salesmen spend cooling their heels outside your purchasing director's office might be used to produce profits for both you and the suppliers.

Here's how the Hancock Manufacturing Company, a division of Hancock Industries in Jackson, Mich., is getting a better price on the many small parts it buys by enlisting the aid of the "captive audience" of suppliers' salesmen who call at the plant each day.

A sample of each part currently being bought by Hancock is hung on a display board in the plant lobby where the salesmen wait to see the purchasing director. Each part is enclosed in a transparent plastic envelope and identified by a part number. A sign on the display asks the salesmen: "Can you suggest a source to save us money on these parts? Please fill in a card, and we'll supply the blueprints." A "take-one" box containing a supply of cards is at the bottom of the display board.

The salesmen find the set-up saves them time, because they can see at a glance what the company buys and can have their bid ready when they see the purchasing executive. Often, salesmen even suggest other companies as sources for parts their company doesn't make. The cards are passed on to engineering, which mails out part prints for quotes.

In the first few weeks, bids were received from more than 30 companies on better than a hundred parts. On several parts, Hancock has been able so far to cut its previous costs by about 20 per cent. —C.K.

Inside Industry

Maintenance Men Voice Equipment Gripes
Printed Circuits Pose Repair Problems
How to Capitalize on Overseas Technology
Russians Lift Curtain on Patents

Advice to Manufacturers

"Production equipment designers should have experience in servicing the type of equipment they design." This is the most trenchant recommendation to equipment manufacturers among responses to an exclusive DUN'S REVIEW survey of maintenance managers in 500 large, medium, and small manufacturing companies on what should be done to improve ease of maintenance of plant equipment.

The maintenance managers also recommend these improvements:

- increased plug-in or modular construction
- greater accessibility to wearing parts
- better instruction manuals—delivered with the equipment
- higher horsepower motors
- enclosure of moving parts
- regular surveying of customers to discover the weak spots to eliminate in future designs
- more automatic lubrication
- use of standard off-the-shelf parts wherever possible
- regular publication of a maintenance bulletin reflecting customer experience and recommendations
- elimination of "nightmarish" hydro-pneumatic gadgets
- greater simplicity

In general, the men surveyed are satisfied with the performance and reliability of machinery in their care, despite the fact that nearly all machinery is getting more complex every day.

Printed Circuit Typos

The current battle of words being carried on in full-page newspaper ads over the merits of printed circuits may be worrying some of the many thousands of companies that have bought electronic office and factory equipment, since practically all such equipment includes printed circuitry. Two recent surveys support some of the criticism, which has been coming mostly from television manufacturers who have rejected printed circuits and returned to old-fashioned hand-soldered wires.

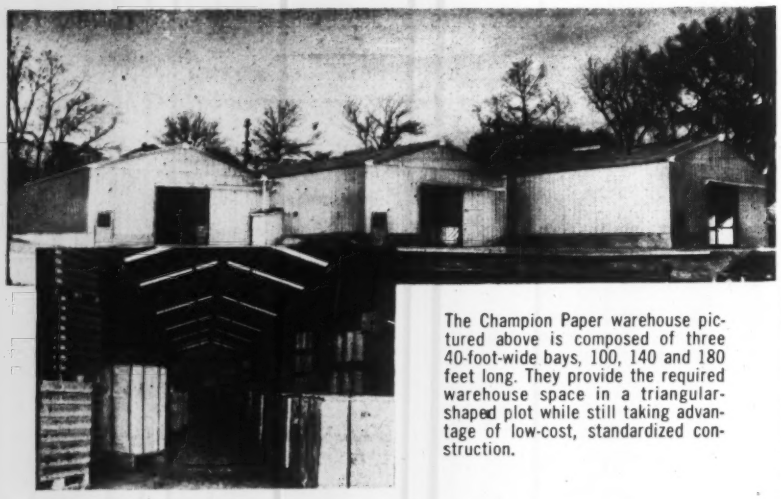
A survey of 2,330 electronic servicemen shows that the printed circuit has introduced many problems in repairing electronic equipment. Most serious of these are breakage of the board, separation of "printed" copper conductors from the board, difficulty in telling which component has gone wrong, and poor accessibility for servicing. However, 42 per cent of those surveyed by the National Alliance of Television & Electronic Service Associations report that the newer boards in the latest models are an improvement. Hand-wired sets call for just as much service as printed boards, according to 40 per cent.

An overwhelming 90 per cent consider printed circuits more difficult to trace than conventionally wired cir-

SKINNY INGOTS: *Automatic production of transistors could result from this new Westinghouse technique for "growing" long, thin ingots of germanium. These skinny ingots are the same diameter as the slices of germanium that go into transistors, eliminating up to 80 per cent of the waste associated with "dicing" the usual fat frankfurter-like ingots into usable pieces.*

HONEY OF A HONEYCOMB CUTTER: *Growing use of honeycombed materials as cores for strong, lightweight structural members is introducing many new fabrication problems. Most industries use flat cores, but the aircraft industry often needs complex shapes. The Martin Company developed this five-axis tracer system for machining cores (at right) into complex, concave shapes, with a tracing head following the plaster model.*

Champion Paper gets weathertight, fire-safe product protection in this new Armco Building



The Champion Paper warehouse pictured above is composed of three 40-foot-wide bays, 100, 140 and 180 feet long. They provide the required warehouse space in a triangular-shaped plot while still taking advantage of low-cost, standardized construction.

Paper is a tough product to warehouse; it requires a lot of space, and it must be kept dry.

The Champion Paper and Fibre Company helps solve these problems with their new Armco Building. The interlocking wall and roof panels of this all-steel structure make it weathertight, prevent moisture penetration.

And, since an Armco Building is noncombustible, it's ideal for warehousing materials such as paper. If fire breaks out, the all-steel construction helps contain it. Losses are minimized.

Wide, clear interiors give wall-to wall, floor-to-ceiling use of space with plenty of maneuvering room for lift trucks. Large plastic roof panels are often used to cut down artificial lighting.

Each Armco Building is *built around a business*. Precision-made parts can be combined in an almost unlimited range of building sizes, shapes and arrangements from 28 to more than 100,000 sq. ft.

Special Armco designs and production methods, rapid erection, early move-in dates—all reduce initial cost. And, these steel structures practically eliminate maintenance costs. Send coupon for full facts.

New steels are born at Armco

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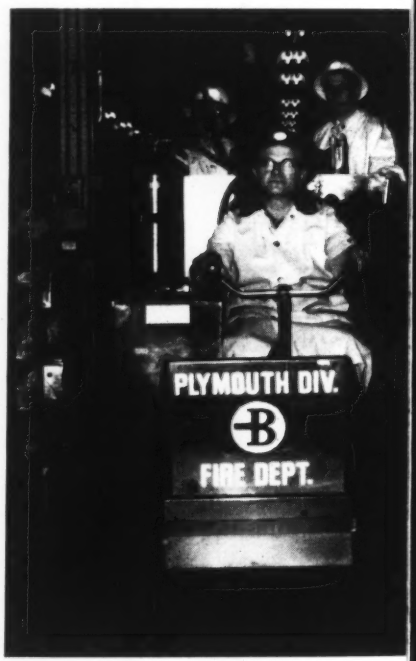
cuits. The servicemen also objected to the way printed circuits are "sold" to the public. They argue that just because printed circuits are used in missiles doesn't necessarily mean—as some manufacturers claim—that they are good in the home. Circuits only have to work for a few minutes in a missile.

The servicemen's conclusions were supported by another survey, this time of ten leading electronic companies that use printed circuits. Difficulty in finding defective components on a printed circuit board was the biggest complaint of service personnel, according to a survey by the Institute of Printed Circuits.

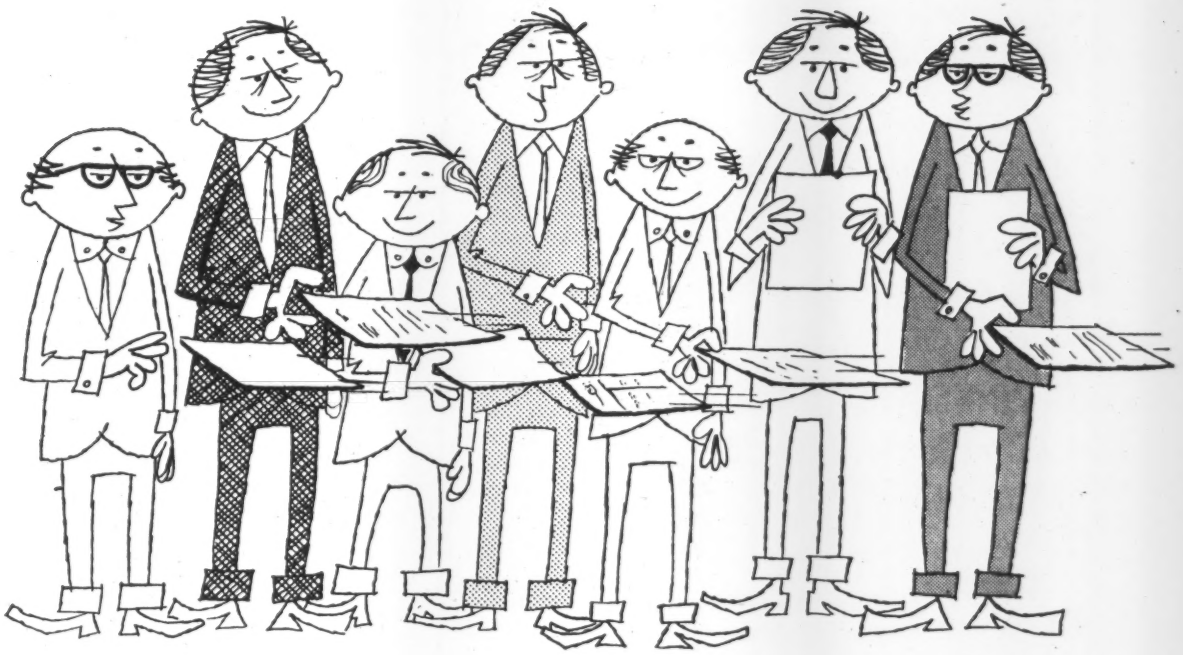
However, eight out of the ten companies surveyed consider the equipment now being shipped with printed circuits more reliable than hand-wired gear.

To meet complaints about difficulty of tracing, the major electronic manufacturers plan to print schematic diagrams on the "unprinted" side of the board. Motorola will code all conductors with a special "bump effect" to aid tracing.

It should be pointed out, of course, that materials used and quality controls on printed circuits for costly in-



NARROW ESCAPE: *This 42-inch wide in-plant fire engine, specially built to negotiate narrow aisles was made for Burroughs Corp. by Seco in Wauscon, Ohio, for $5,800. The three-man crew is trained to handle a variety of equipment. Top speed is 15 mph.*



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GET THE FACTS NOW . . . If paperwork simplification is one of your problems, let us show you how easily and inexpensively it can be solved with the amazing DAV-A-MATIC. Send the coupon today for complete information and the name of your local Davidson Distributor.

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dustrial equipment are much better than for a $150 TV set, although the process is the same.

Overseas Technology Boom

Another indication of the growing popularity of importing technical ideas from overseas (see DUN'S REVIEW February 1959, page 42), was the three-day conference on "Capitalizing on European Science" sponsored recently by the American Management Association. The problems as well as the profits resulting from prospecting for foreign technology were outlined.

Many companies are meeting the problem of keeping abreast of overseas developments by setting up technical information divisions, said B. H. Weil, chief editor, Technical Information Division, Esso Research & Engineering Company, Linden, N.J. Using the latest techniques in communications, "information scientists" in these divisions abstract the flood of overseas scientific and technical information.

The best time for scouting new products in Europe is in the Spring and early Summer, when many trade fairs are held, according to Dr. Worth Wade, manager, Patent Development, American Viscose Corp., Philadelphia. By starting in southern Europe in April, he said, it is possible to attend from six to eight fairs in three to six weeks.

In setting up a European laboratory, Robert M. Bowie, vice president, Sylvania Research Laboratories, Bayside, N.Y., advised that because of poorer communications, legal differences, and lack of knowledge of U.S. industrial methods, goals sets for overseas research programs must be exceptionally well thought through.

Because scientists of almost any nationality find it a congenial place to live, Switzerland was picked by W. W. McDowell, vice president for research and engineering at International Business Machines Corp., as the best place to establish a European research laboratory. McDowell also said that IBM believes sales of equipment in Europe are made easier if customers can be told that part of the research for the equipment was performed in Europe.

Information Breakthrough

For the first time in twenty years, the Soviet government is permitting copies of Russian patent specifications and applications to be published outside of the Soviet Union.

CONCRETE RESULTS: *The new Colson caster plant in Jonesboro, Ark., was put up in half time by means of pre-cast concrete roof sections and tilt-up wall slabs. Long used in Europe, the new construction technique is now attracting wide interest here.*

Although the Russians have had free access to copies of American and other nations' patents and other valuable technical material, American industry has not been able to obtain much direct knowledge of Russian advances.

Pergamon Press, New York, will translate the patents and publish them in a monthly bulletin. Although patent specifications in themselves rarely reveal enough to enable the reader to duplicate the invention, they provide valuable clues to designers working on specific problems.

In another surprise move, the Soviet government has permitted an American research organization, the Rand Development Corp. of Cleveland, to open a Moscow office for the purpose of negotiating licenses for new Russian technical advances.

Precision for Rent

Companies with only an occasional need for some specialized measuring instrument can now rent it instead of buying. The General Electric Company has assembled a pool of 13,000 instruments for rent through a nationwide network of 55 shops. Fees range from $1 to $96 a month. A fancy $1,500 oscillograph, for example, rents for about $75 a month, including maintenance. —M.M.

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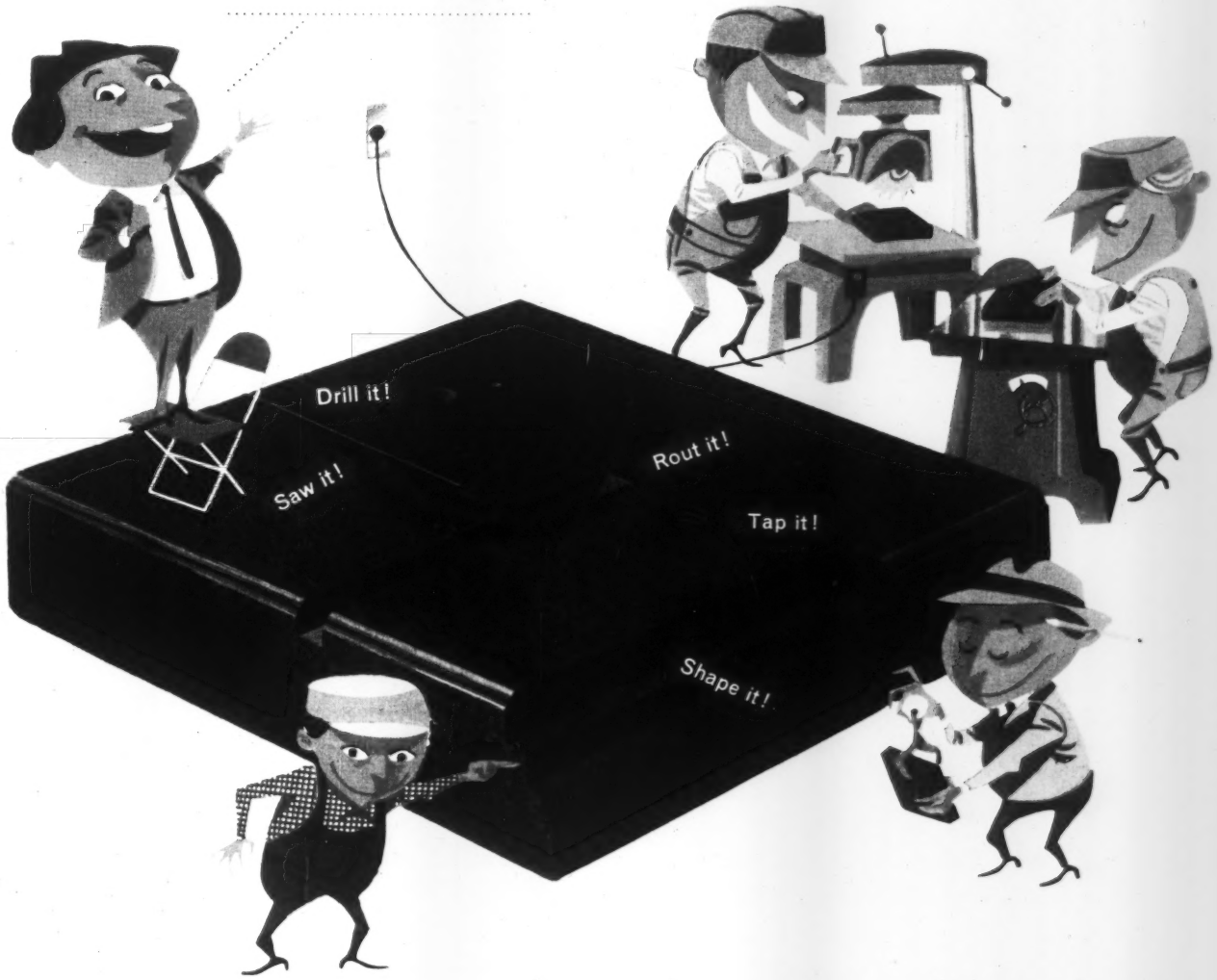

see for yourself what BENELEX can do

Your free test block comes to you ready-marked for all these operations. Simply turn it over to your shop men—then see how beautifully it comes back. *No special tools required.*

JUST A FEW OF THE WAYS YOU CAN USE BENELEX
(your own operation will suggest dozens more):

- Table tops
- Die supports
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- Stretching forms
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- Assembly fixtures
- Toys and models
- Mock-ups
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BENELEX comes to you in two densities, No. 70 hard (¼″ through 2″ thick, sizes to 4′ x 12′) and No. 30 medium hard (⅜″ through 1¼″ thick, sizes to 4′ x 8′).

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BEAUTIFUL WEATHER BARRIERS!

Unique new insulated walls for Butler buildings

Here they are! Walls with the bold, new look of tomorrow . . . incredibly slender, yet efficient; walls so durable, so weather-resistant that even years from now they'll still have that new look.

These distinctive curtain walls were created with Monopanl,® the first factory-fabricated and insulated panel that is factory-sized to fit a pre-engineered structural system to a "T." And, Monopanl is brand new on Butler buildings.

Thanks to its unique design and complete factory fabrication, Monopanl provides the fastest . . . easiest-to-erect curtain wall of its type; a slender wall as efficient as 12 inches of masonry.

Faced with hammered-embossed aluminum, Monopanl creates eye-catching industrial or commercial buildings that anyone would be proud to own. From the outside there are no visible joints or fasteners to mar the beauty of individual panels. If you prefer color—choose from a rainbow of durable, factory-applied color finishes. Monopanl is also available in galvanized steel that can be field finished in most any color of your choice with Butler Metal Magic.

Get full details on Butler buildings and Butler Monopanl. Ask about Butler financing too. Contact your Butler Builder. He's listed in the Yellow Pages under "Buildings" or "Steel Buildings." Or write direct.

Monopanl is a completely finished section of wall with insulation between metal inner and outer faces, (above left). Unique double tongue and groove design (above right) creates strong joints. Installation is simple—panels are simply pushed together—and fastened to structurals top and bottom. Double vinyl gaskets at every joint permanently seal out moisture—never require caulking.

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Sales & Distribution

Tracking Down Prospects at Shopping Centers

- ***Company tradition helps train distributors' salesmen.***
- ***Handy package keeps product chilly, sales simmering.***
- ***New convention twist: Turn prospects into promoters.***

CRITICS of the automobile industry have long complained that car makers don't go out after prospects but instead wait for them to come into the dealers' showrooms. Well, the Ford Motor Company is answering the carpers by taking its products out to the very place that could not exist were it not for the automobile—the suburban shopping center.

The company reasons that the shopping center patrons are prime prospects because virtually all of them come to the center in cars, and all are in a buying mood. So this Summer, from coast to coast, Ford will be setting up exhibits for nine-day showings at 48 different shopping centers. It expects to reach more than a million people a month.

To separate curious onlookers from actual prospects, the company offers prize drawings for those in the audience willing to fill in a card containing five questions designed to detect a potential buyer.

Each exhibit covers from 10,000 to 12,000 square feet and shows the company's cars in various settings. For instance, the theme of one of the exhibits will be "Design for Station Wagon Living." The show will demonstrate how the latest in camping and hunting equipment (such as electric socks and portable toilets) can be used with Ford's cars.

Another show, which will be in the New York metropolitan area this month and next, spotlights suburban living by pointing up the latest in outdoor furniture, gardening equipment, and pet care—and showing how Ford's cars fit in the suburban scene. At shopping centers in farm areas, the company will show cars, trucks, and farm equipment, with the theme of farming today and in the future.

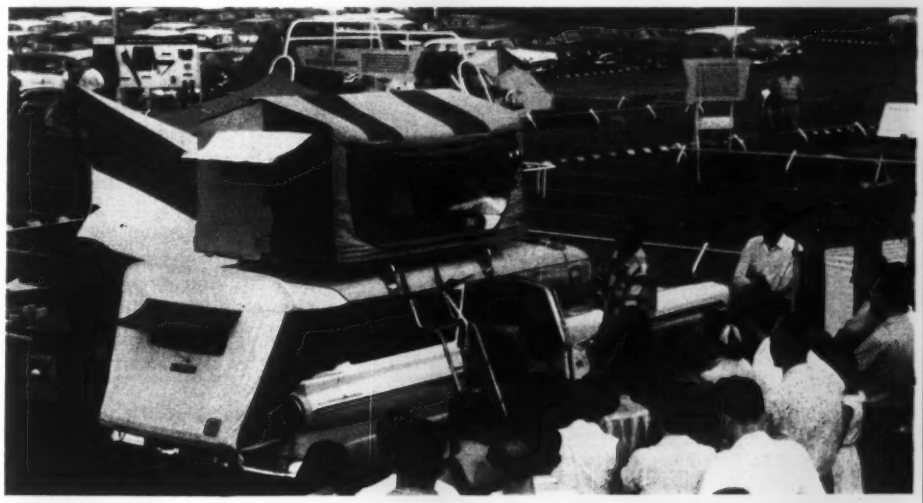
Profitable History Lesson

Finding ways to increase the efficiency of the selling force is the most important sales problem of 1959, according to a new survey by the National Industrial Conference Board of 131 manufacturing companies. One company is tackling the problem by steeping its salesmen in the company's history and traditions.

Many companies with long years of service behind them have put history to work for them in a variety of ways, including company museums, stories in employee publications, and company histories. But now Amana Refrigeration, Inc., Amana, Iowa, is putting its own highly unusual background to work in the training of its distributors' salesmen.

Founded back in 1855, the Amana Society was a religious community that prospered on a communal, share-and-share-alike basis until 1932. All property was held in common, no one received direct pay for his labors, and all were cared for by the community, which also operated kitchens and dining halls—there were none in the homes.

In 1932, to quiet the dissatisfaction of the younger members, all this was changed. But many enterprises—farming, woolen mills, furniture making, meat processing—still are oper-



SELLING IN THE BIG OUTDOORS: *The Ford Motor Company is seeking out shopping center patrons in promoting the idea of station wagon living.*

HOW MUCH WASTE CAN YOU AFFORD?

None, you say? And you're exactly right, for there are enough other factors attacking your profits nowadays without suffering needlessly from controllable waste of TIME, space, money or material! *But take another look – perhaps you aren't really recognizing some important causes of waste.* Do your record-keeping systems provide instant location, foolproof refiling, full visible control and complete flexibility – all in minimum space? Are they adaptable to either hand or machine posting, and to automated methods? Do they give you real "management by exception" or do you just wish for it? Do they give you facts at a glance – instead of too little, too late? Are your employees satisfied with your systems? Unless you can honestly answer "Yes" to these questions you are indeed paying for needless waste – and you need *VISI*record!

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- Personnel, Seniority Control
- Maintenance Scheduling, Service Followup
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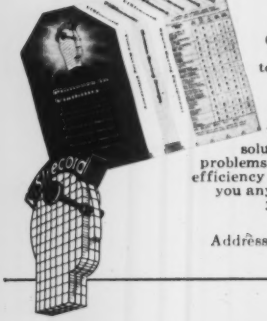

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The world's fastest visible record keeping system

ated by the Amana Society, which has now evolved into a cooperative with stockholding members. However, the century-old pride of craftsmanship and devotion to honest workmanship still pervade the life of the community.

The company, which produces Deepfreeze freezers, refrigerators, and air conditioning equipment, was part of the Amana Society until as recently as 1952, when outside investors were brought in so that the company could raise the capital needed for nationwide competition. But the same top executive still heads the company.

So, in addition to the usual plant tour and briefing sessions on merchandising plans, Amana's distributors' salesmen spend time soaking up some of this tradition by visiting the descendants of the founders of the communal colony who work today at the same crafts practiced at a time when quality was everything and competition was something other people worried about.

Boon to Picnickers

A new package is expected to bring a big boost in the sale of beer this Summer. For the first time, canned beer will be available in a package that will keep it cool without ice for at least six hours. It's an aluminum foil, laminated, corrugated box with the insulating properties of a metal cooler, according to Alcoa Research Laboratories. The beach-bound or picnic-prone consumer will be able to open the package six hours away from the refrigerator or ice source and still quaff a cold—and, presumably, more refreshing—brew.

Although the new package is more expensive than conventional cartons, the Haffenreffer Brewing Company, a New England producer which is packaging all its beer this way this Summer, is confident that the boost in sales will more than make up for the lower profit margin. Alcoa looks for the use of aluminum in packaging to double during the next five years, as it already has in the five years since 1954.

Let the Customer Judge

Contests to attract visitors at trade shows and conventions are an old standby. But there's a new twist: a contest that not only draws potential customers but also puts them to work attracting others.

An insulated package that keeps beverages cold for at least six hours is expected to boost sales this Summer.

One such contest recently was conducted by the Mosler Safe Company at the annual convention of the American Bankers Association, attended annually by about 9,000 of the nation's bankers. The competition for attention among companies supplying this market is very keen, and Mosler tries to come up with a new product for the convention every year.

At the latest convention, Mosler decided to show off its new drive-in bank window. Knowing that bankers usually try to put their best face forward in staffing their drive-in windows, Mosler decided to conduct a beauty contest that would select the most attractive drive-in teller in the United States.

Since bankers are noted for their conservatism, the company hoped that, at best, 300 banks would enter their tellers in the contest. As it turned out, more than 1,000 entries actually were received. From this group, three finalists were chosen to attend the convention, and Mosler picked up the tab.

The final choice of the winner (who received a two-week Miami vacation for two) was left to the vote of the bankers at the convention. As a result, the three banks represented by the finalists worked hard to get their colleagues to visit the Mosler booth to see and cast a vote for their candidates. In fact, every banker in the country received three mailings from the sponsoring banks urging him to visit the safe company's booth to vote for his favorite.

Mosler credits to the contest the fact that sales of the new window soared following the convention.

—T.K.

New Dun & Bradstreet Survey

Business Men Size Up Their Banks

... and find them doing a good job, over-all. But one customer in six thinks that loan policies are too tight.

IS BANKING a profession or a business? It's a little of both to the American business man, especially the smaller business man who looks to his local banker for guidance in financing management and service in the routine business of handling deposits, making loans, and cashing checks.

Most American business men think well of their banker, but 55 per cent of them would like to see him make some improvements in the facilities he offers, according to an interview survey just conducted by the DUN & BRADSTREET field staff in a one-day spot check of 1,000 business proprietors and top executives in 642 communities across the nation. Two questions were asked:

- What is your bank doing that is of greatest service to you today?
- What additional service could your bank render that would be more helpful to you in the future?

A mixed appraisal

In the replies, praise and appreciation of bank services was mostly expressed in general terms, but the suggested improvements in service were specific and often highly selective in application to an individual business. Actually, every suggestion for improvement had its converse in a compliment from some other respondent. Banks are praised for their community spirit, their understanding of business problems, their expert guidance in financial matters, their introduction of special services—and they are blamed for their shortcomings in precisely the same areas. Taken as a whole, the comments clearly reflect the range of enterprise and ingenuity of the entire banking community.

As might be expected, a substantial share of the business men participating in the survey would like the banks to be more liberal in their lending policies, not only in the amount of credit provided but also in the length of time to pay. The most persistent complaint is that the current balance sheet seems to bear too heavily on the judgment of the loaning officer, and that the experience, operating record, and long-term profit performance of the company are not given enough consideration.

Business men in all categories, but especially in manufacturing, voice this criticism. "Why don't they get out and look at the physical risk, instead of juggling the 'yes' and 'no' on the basis of what they see in the profit-

Services Most Used . . . and Most Wanted

These bank services are called most useful . . .	. . . by these percentages of respondents
Granting short-term loans.	38.2
Handling deposits and checking accounts	17.6
Counseling on business problems	14.6
Financing receivables	5.8
Making term loans	3.5
Providing credit information	2.7
Financing equipment purchases	2.4
Offering a "charge plan"	1.7
Maintaining a drive-in window	1.3
Staying open late	1.2
Miscellaneous other financing	4.2
Miscellaneous other services	6.8

These additional or improved services are wanted . . .	. . . by these percentages of respondents
More liberal loan policies.	16.0
Counsel on business and economic problems	11.1
Lower interest rates and service charges	4.2
More liberal financing of receivables	2.8
Faster service	2.8
Longer business hours	2.7
"Charge plan" for consumer credit	2.6
Drive-in window and night depository	1.6
Arrange more non-recourse financing	1.1
Miscellaneous other financing	2.0
Miscellaneous other services	8.0
None to suggest	45.1

"Don't sell more than 100 shares to any one buyer..."

That's the directive we frequently receive from corporate customers who ask us to help them distribute large blocks of stock.

In these cases, of course, "distribute" means a good deal more than just selling the stock. It means spreading it around as widely as possible — to as many people as you can reach, in as many parts of the country as possible.

Lots of times, this can complicate the job for a broker, because lots of times it's much easier to find people anxious to buy blocks of 1,000, 5,000 —even 10,000 shares.

In our case, however, it rarely presents too much of a problem:

Because we have an international network of 126 offices instantly linked by more than 100,000 miles of private wire. . . .

Because our account executives are in day-to-day contact with literally hundreds of thousands of prospective buyers. . . .

Because we've always believed that the more people who own a company, the better. The better for them, the company, our entire economy.

If you have a large block of stock to sell—and it makes a difference to you how many people buy it—you might want to contact our vice-president, Mr. W. H. Culbertson. A confidential letter or phone call can reach him, at—

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and-loss columns?" One small but well-rated manufacturer in a small Ohio city sums up some of the beefs about loan policies this way: "The banks are too conservative in making loans to a business. They require full security and often require officers to co-sign as well. Loans are granted on a formula basis rather than an individual basis." In the same vein, another Ohio manufacturer says, "It is rare that banks will grant open account loans. They demand security well above the loan, thereby tying up assets to the detriment of general creditors."

Needed: more capital

The opinion that rural banks are undercapitalized and unable to meet the borrowing requirements of the business community was expressed by a Midwestern retailer, who suggests that country banks should have "a referral service to recommend the borrower to a larger city bank for the additional sum needed, or for the entire loan."

The size of the community influences both the attitude of the business man and the qualifications of the banker. The complaints against inadequate bank personnel in small towns are offset by several compliments on the quality of the bank staffs in larger cities. There is a general feeling that bank personnel should not only be skilled in financial matters but be trained in the essentials of public relations in dealing with customers. As one business man said, "When I go to the bank to negotiate a loan, I want to be treated as a customer, not as a beggar coming for a handout."

High praise for services

Yet many of the survey respondents tell of service which is not only friendly and courteous but "above and beyond the call of duty," as a Michigan manufacturer puts it. His bank's services include negotiating letters of credit, providing recommendations, counseling on matters unconnected with banking service, and notary public services.

In another Midwestern community, a manufacturer reports: "The bank has taken considerable interest in the company and has supported it for several years with loans secured by accounts receivable. Looking at the balance sheets alone, our financial position is not strong. However, by working closely with the company accountant, the bank has kept itself informed on the internal operations of the company. In this way it has seen sufficient strength to justify the loans."

"My bank," says a Los Angeles manufacturer, "went out of its way to learn about the leasing of equipment and property so that it might serve the concern's interest more closely in loaning money against personal and leased property."

An Illinois manufacturer listed four important benefits received from his bank: "(1) Excellent foreign exchange and market information, (2) over-all business advisory service, (3) credit information on new accounts, and (4) cash funds in the form of loans or discounted notes."

Complaints from Main Street

The small-town business men, however, have more complaints than compliments on bank service. An Iowa automobile distributor gripes that "banking offices are not qualified in various operations of lines of business." An Oklahoma wholesaler reports that bankers in his town are too cautious, and that as a result they are losing local support. Local business men, he says, are "not only doing their banking in other communities, but are transacting their other activities there also." A Minnesota retailer thinks that banks in his community ought to "become more active in farm loans, enabling farmers to get on their feet and do more purchasing." A Kentucky hardware dealer echoes this sentiment, observing that banks should "liberalize credit to local farmers, who represent 90 per cent of my trade." He adds, "I don't care to carry additional 'harvest receivables' when the banks could provide the funds, especially in years of good harvest and high farm income."

The bank as counselor

However, a small-town New Jersey retailer has a good word to say for his bank: "First of all, it is always encouraging the company. It periodically reviews financial statements with the management and helps us plan for the coming year. This, of course, includes accommodations extended periodically to the company. The bank is patient, understanding, and helpful in all dealings with the company. It is cautious, as it should

be, but even in its caution it is helpful."

Generally, though, business men in smaller communities are not entirely content with their bank services, and the dissatisfaction extends beyond loan policies into the area of nonfinancial service. They would like their banks to provide better parking facilities, night depositories, Saturday service, more tellers during rush hours, faster loan decisions, conversions of temporary overdrafts into loans, and an open line of credit for emergency situations, depending on financial standing and reputation in the community.

Help at trying times

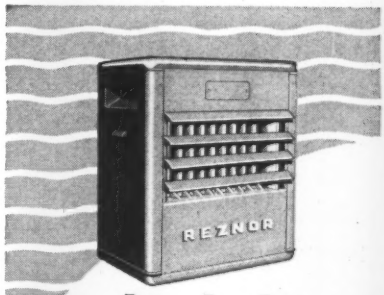
Several banks reflect the long-term wisdom of their executives under difficult circumstances. A California distributor credits the bank with the salvage of his business. When a large customer went bankrupt, he was "caught in the groundswell," and his business almost went under. But the bank extended a large loan, and "thanks to the kindness of our creditors and the bank, we are now out of danger." An upstate New York manufacturer pays tribute to the advisory services of his bank, which "acts as a steering committee, helping us with budget planning, cash projections, and use of temporary loans, and gives all-around consideration to our problems."

For an Ohio manufacturer with many executives on the road, his bank serves as a travel bureau—making reservations, delivering tickets, and billing the company monthly. The treasurer observes gratefully that this service "saves time, money, and much irritating detail."

Installment credit: pro and con

Some business men like the bank charge plans which provide credit cards for customers, but there are a few who think the banks should stay out of the merchandise installment and credit business. A Tennessee warehouse operator feels that "banks should start wholesale paper on an installment basis, similar to consumer financing."

All in all—as the summary table on page 175 makes clear—the business man, though he has a good opinion of his bank, would like to see it display more signs of ingenuity in meeting the challenge of modern-day business. —A.M.S.



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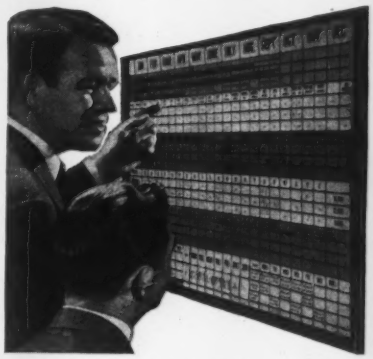

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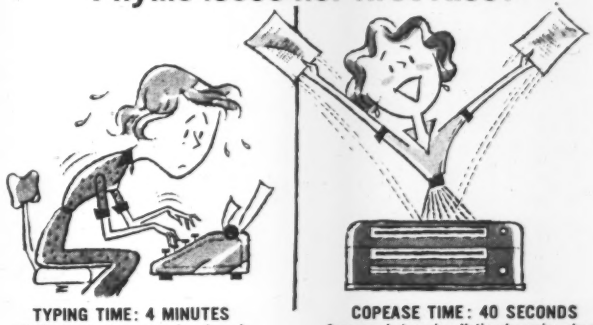

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On the corporate policy level, follow-the-leader is a risky game. And it's all too popular in some fields of management.

Corporate Conformity Doesn't Pay

IN ITS constant search for better methods, management is often tempted to adopt another company's formula for success without really adapting the idea to its own needs and circumstances. All too often, the results may be disastrous—just as in the case of a college student who crams for a crucial test from someone else's lecture notes without any real effort to understand the subject.

That, at least, is the conviction of two out of three company presidents participating in a recent DUN'S REVIEW survey. The 107 respondents are all regular participants in the DUN'S REVIEW Presidents' Panel—a cross-section of the big U.S. industrials, which themselves help set patterns in management.

Playing corporate copy-cat, most of these men believe, is a risky game. Says the head of a multi-plant manufacturer in the Midwest, "Sometimes companies jump on the bandwagon and end up following unsuccessful patterns. I believe insecure management will generally jump at any suggested program in any field, but that secure management will not."

Today even more than in the past, companies are alert to programs, policies, and practices that have given competitors a profit edge. Corporate success stories make headlines in the trade and public press. Management conferences, trade associations, and stockholder advisory groups act as a busy clearing house for the idea or method that worked wonders for one company or one industry. The recession, too, put new pressures on management to find better answers to old problems—and to solve new problems faster. Although the pressures have eased for almost all companies, top executives learned some lessons they are determined to keep on practicing. As one company president puts it, "Every alert executive keeps informed to the fullest degree with regard to what is taking place in business generally and in competing business specifically."

Risks of imitation

A number of presidents believe that the postwar growth of management seminars, workshops, and conferences, "although valuable to the younger echelon of managers, all too often offers ideas and case histories that are accepted and used without a truly critical analysis of their adaptability from one company or industry to another." There is some danger, notes the president of a major industrial company with sixteen plants and 13,500 employees, of management's assuming that "attendance at meetings, conventions, and conferences can be a substitute for hard and intensive thinking about its own problems and opportunities. The other fellow doesn't always have the answers, though a reasonable amount of time spent in an exchange of ideas can be fruitful in stimulating thought."

Thoughtless follow-the-leaderism, the survey indicates, may crop up in every functional management area. "Some executives," observes the president of a multi-million dollar industrial machinery company, "have unquestionably gone too far too fast in such things as electronic data processing, operations research, the marketing concept, and human relations." The areas of imitation are many. But chief among them, according to the men surveyed, are collective bargaining, compensation policies, and management development.

"In dealing with unions," says one president, "one company gives in, and then others follow suit." Frequently, of course, they have little choice. And in any event most presidents seem to be resigned, however reluctantly, to organized labor pressures. What alarms them more is imitation in the areas in which management presumably has more freedom and prerogatives, and yet fails to act and think independently.

Too many companies, they say, diversify, decentralize, or merge simply because others are doing it. Too many imitate the compensation structure of other companies, down to the whole fringe package. Too many copy another company's product styl-

"There's a group of small business men to see you."

ing or its advertising or public relations program.

The president of a ball-bearing company sees excessive imitation basically as a failure of management to think in sufficiently concrete terms; to decide on a specific rather than an abstract basis. Management, he says, tends to generalize about people instead of considering them as individuals; it tries to fit the organization to some theoretically ideal blueprint. He mentions wage and salary administration and organization planning as more glaring examples:

> The basic principles of wage and salary administration are fairly uniform among companies, yet they leave much to be desired from a compensation standpoint. Jobs, not individuals, are evaluated, yet it is common for great performance differences to exist among employees in a given rate range. Merit increases are supposed to take care of these differences, yet it has been my observation that many times one employee has as much as four times the value of another, and the structure leaves no room to recognize this.
>
> In organizational planning, there is a strong tendency to make a functional organization chart and then assign an individual to a predetermined group of duties without recognizing that individuals simply cannot conform to such a pre-established pattern. All companies, to some extent, tailor the job to the individual, but not nearly as much as they should. More often, we try to get the individual to tailor himself to the job, which in many instances is an impossibility.

Self-sufficient leadership

Good management, the presidents insist, depends fundamentally on doing it yourself—keeping informed, of course, of how others are doing it and learning as much as possible by their experience, but, in the final analysis, formulating policy in accordance with the company's own individual needs and goals. Says the president of one billion-dollar concern, "Some companies attempt to adopt every new management theory which is developed, without considering the effect on their company's specific operations. An example is decentralization of management. This is good for some, but not for others. Each new program or policy should be tested by the individual company."

But while a little leaning on others' success may be a dangerous thing, as some men point out, management could not indulge in follow-the-leaderism if there were no leaders to follow. Most presidents say that being in this self-sufficient and thinking vanguard is the best answer. —K.H.

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International Markets

- ***New tax concessions may soon be offered to encourage U.S. capital investments in underdeveloped areas.***
- ***Overseas investments keep climbing as more U.S. companies seek higher profits and competitive advantages abroad.***
- ***Latin American nations contemplate common market plans to help solve their economic woes.***

A NEW TYPE of "international trade corporation," providing a tax shelter to offset partially the capital risks of investing in underdeveloped countries, may soon be available to U.S. business. The Treasury Department, which usually lays a heavy hand on this type of tax relief, has given a qualified nod of approval to some parts of the Boggs Bill, which was placed in the 1959 legislative hopper by Representative Hale Boggs (D., La.). Chances now are good that the Treasury-approved sections will clear the Congress intact.

In effect, the bill implements and expands the benefits presently available under the Western Hemisphere Trade Corporation Act of 1942. That Act provides a tax rate of 34 per cent on net profits over $25,000, rather than the domestic rate of 52 per cent. However, unlike the WHTC, which restricts a company's area of operations geographically, the proposed "international trade corporation" would restrict operations geo-economically —or specifically to underdeveloped countries. Definitions for measuring the economic development of these countries still have to be worked out, but the field for investment opportunities is certain to be large.

The key proposals endorsed by the Treasury Department and concurred in by the Departments of State and Commerce provide these incentives:

1. Deferment of taxes on income derived by a corporation that gets all or most of its income from investments in one or more of the less-developed areas of the free world.

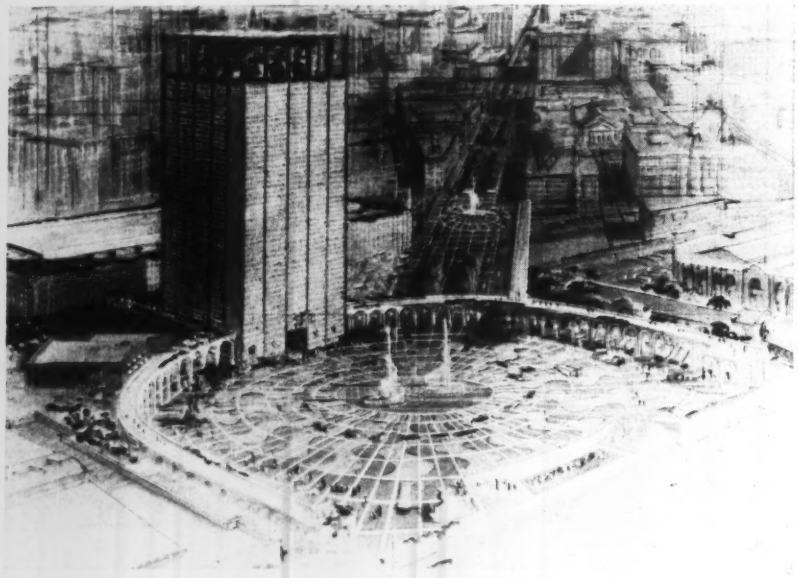
2. Tax sparing by treaty or negotiation to allow U.S. companies investing in an underdeveloped country to benefit from tax inducements offered by that country.

3. Ordinary loss treatment on losses incurred by original investors in capital stock of such corporations.

Whether or not you have overseas dealings, these developments could affect your business in the future. For instance, if you have been doing an export business with these miniature markets, you may have to recast your plans to invest instead of export—for if you don't, your competitors very well may.

If you have been importing from these areas, you will have to keep closer tabs on sources of supply and prices, because the establishment of new industries almost inevitably brings higher prices as available manpower moves from the fields to the factory.

If you already have an investment stake in these areas, you may have to revamp your marketing appraisals, for increased industrialization means increased purchasing power.



THIS BEAUTIFUL *$10 million International Trade Mart is being erected in New Orleans to replace a ten-year-old structure which has already outgrown its facilities. The new trade mart, designed by Edward Stone, will provide permanent exhibit space for U.S. and foreign companies to display their wares in this heavily trafficked port. The building will contain 300,000 square feet (three times more than the original mart) of office and small permanent exhibit space in esthetic surroundings.*

Investment Stake Grows

The overseas investment boom goes on as direct investments by U.S. companies in overseas branch plants and subsidiary operations continue to expand. Total equity capital placed abroad is expected to reach at least $30 billion by 1960. This projection is made from a narrow base of some 400 U.S. companies filing periodic data with the Office of Business Economics, U.S. Department of Commerce, and is regarded as representing four-fifths of total U.S. direct

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company investments. Not included are increments from undistributed profits and depreciation allowances—which, if added, would sharply increase the investment stake.

A new census of U.S. investments for the year 1957 is now being conducted by the Office of Business Economics. Although the results won't be known for more than a year, it is expected that this penetrating study, the first in seven years, will show an explosive expansion of U.S. business activity in most fields of industry and in most overseas markets. It should result, too, in some important investment guides for American management concerned with international operations. More than 3,000 companies are expected to file data.

Why are U.S. companies investing overseas? There are two basic reasons: the opportunity for higher profits, and the desire to develop a stronger competitive posture. Specific lures to U.S. risk capital include:

- Lower taxes
- Fatter depreciation and replacement allowances
- Larger retention of earnings for reinvestment
- Higher profit margins resulting from lower labor costs and, sometimes, lower cost of materials
- Easier access to markets
- More flexibility in dividend schedules, making it possible to declare these in fiscal periods convenient to the U.S.-based company
- Greater opportunity to keep tabs on new techniques and new products developed overseas.

According to a study by Standard and Poor's Corp., major U.S. corporations that have pushed the development of foreign markets are finding that this business is making appreciable contributions to their total consolidated sales. Here is a breakdown, based on the latest available 1957 figures, of the percentage of sales that 139 big American concerns realized from overseas markets.

Percentage of total sales	Number of companies
100 to 70	4
69 to 40	18
39 to 20	43
19 to 1	40

No percentage was specified by 34 companies, but it is understood to be more than 10 per cent of total sales in each instance.

This group, of course, was well larded with corporations in the billion-dollar sales bracket. Over-all sales of the 139 companies reviewed totalled $66.3 billion. The overseas share was $17.6 billion, or a broad average of 26 per cent.

Latin Common Market Coming

Latest reports indicate that the European Economic Community is progressing so well that some authorities predict that some steps toward the merger will be completed in less than the twelve to fifteen years provided in the original agreement. Meanwhile, two groups of Latin American countries are hard at work formulating plans which may put in motion a merger along common market lines.

Trade leaders of Chile, Brazil, Uruguay, and Argentina are talking about a four-nation combine, while representatives of Ecuador, Venezuela, and Colombia are considering a three-nation market area. The end objective of these plans is the eventual formation of an all-inclusive Latin American common market. But thinking seems to be that the piecemeal approach is the best way to deal with special regional problems.

Worsening economic conditions make the common market plan appear increasingly attractive to many Latin American countries. Twelve of the twenty Latin American republics had trade deficits in 1953, and the other eight markets are achieving a balance of payments only by cutting imports drastically. The pressure to find a solution to these problems through mergers is mounting.

New Investment Twists

New patterns in company investments are emerging. Here are some of the new investment moves that have made the financial headlines:

- Chrysler Corp. is investing $15 million in Argentina to build Chrysler-designed trucks.
- The United States Rubber Company and the Nitto Tire Company of Japan announced a technical service agreement whereby U.S. Rubber will supply technical assistance for Nitto's production of all types of pneumatic tires and tubes. Nitto also will produce U.S. Royal brand tires for export sale by U.S. Rubber.
- E. W. Bliss Company, of Canton, Ohio, and Henschel-Werke G.m.b.H. of West Germany, two big manufac-

turers of heavy equipment half a world apart, have joined forces to create a new organization, headquartered in Dusseldorf, which will manufacture and distribute Bliss products.

- The Warner & Swasey Company, Cleveland, and Asquith Machine Tool Corp. of England are forming a new company to manufacture the W&S line of single-spindle automatics for distribution in the United Kingdom, European, and other world markets.
- B. F. Goodrich Company has tire plants under construction in Brazil, Australia, and Iran.
- Willys Motors, Inc. and Renault of France, in an interesting departure from standard practice, have agreed to invest jointly in a Brazilian enterprise to produce the "Dauphine" passenger car in Brazil.
- Machine tool makers, whose overseas sales have been hurt by the higher price of made-in-USA products, are buying into foreign concerns, especially on the Continent.
- The auto rental business in which U.S. companies participate is flourishing overseas with the impetus of the growing number of U.S. tourists abroad. Involved internationally are Hertz American International, Ltd., and Avis Rent-A-Car System.
- Even U.S. banks are going heavily international. Among recent developments in the banking community was the organization of a wholly owned subsidiary of the Chemical Corn Exchange Bank—Chemical International Finance, Ltd.—to assist in the expansion of business abroad.

Buying on the Cuff

American-style installment credit has another convert. Last Winter, the United Kingdom initiated an H.I.P. (Hire Installment Purchases) program to increase consumer sales. Now Bonn has joined the installment credit users by entering the small loan field. Three major West German banks recently decided to make loans of DM 300 to DM 2,000 ($75 to $500) and to allow repayment in six to 24 monthly installments. The effective interest rate is 9 per cent a year, plus an initial fee of 2 per cent of the amount loaned. The small loans, which are available to average wage and salaried earners, are expected to boost consumer goods sales sharply. And U.S. companies already serving this market should benefit accordingly.

—ALEXANDER O. STANLEY

Expansion that's riding on wheels is focusing new interest of private investors on Chile as an important country for future growth.

Case in point: a $32 million program for improved railway facilities now under way. Yet just as impressive is Chile's move towards further mechanization. The country's first tractor factory soon will be in production with an annual capacity of 2500 units.

Added to these advances is the rapid development of Chile's natural resources, especially copper and nitrates, coupled with dramatic growth in agriculture, livestock and food processing and in the production of iron and steel, chemicals, fertilizers and paper.

Chile's firm efforts to combat inflation, its traditionally friendly welcome to business, and the progressive, business-like approach of its government in economic and financial matters mark it as one of the most promising countries for a sound investment. Why not visit Chile, the beautiful vacation land which offers some of the world's most varied scenic attractions, and see for yourself.

For full details on the advantages of Chile and a copy of the booklet, "Investing in Chile," write General Manager, Cía. Chilena de Electricidad, at the address below or Area Development Section, American & Foreign Power Co., 100 Church Street, New York 7, N.Y.

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PAINTING ADVANCE: Lower-cost primer coatings for enamel paints offers several advantages: good chemical resistance, good adhesion to metals, and excellent flexibility. Nontoxic and noninflammable, the coating is based on the reaction of two special compounds in an aqueous solution. Mobay Chemical Company, Pittsburgh 34.

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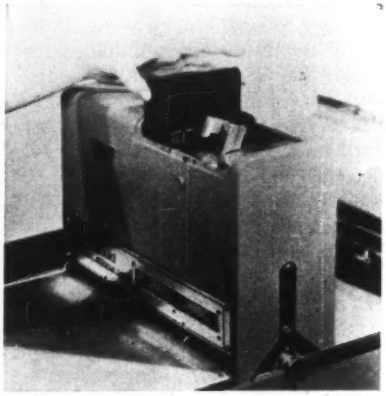
POWER SAVER: Light-control system adjusts room lighting as the amount of available daylight increases or decreases. Heart of the system is a control panel, the "Lumistat," which reacts to light much as a thermostat reacts to heat. The user merely presets the dial to the lighting level desired and the system does the rest. Factory-lighting tests have shown a claimed power saving of up to 50 per cent. The Superior Electric Company, Bristol, Conn.

•

HANDY WELDER: Automatic welding machine for use on aluminum pipe weighs less than 50 pounds, making it easily transportable. Operating on DC power sources, the unit will butt-weld a 4.5-inch-diameter pipe in less than a minute. The pipe needs no programing before the weld is made. Aluminium, Ltd., 620 Fifth Ave., New York 20.



REFINED CAMERA: Portable microfilm camera now features film-magazine loading that prevents incorrect insertion of the film. Unused portions of film may be removed if the camera is put on another job. The original film can be reinserted later, maintaining proper records control. Also, speed of operation has been increased, and density-control units promise consistent reproductions even with different color originals. "Flofilm 9600," Flofilm Division, Diebold, Inc., Norwalk, Conn.

more news on next page

Three Ways to Better Tires

NEW CORD: With the addition of a "secret ingredient" that gives it a natural golden color, caprolactam-based nylon yarn—already in use in such heavy industrial products as fire hose, webbing, and belting—is now especially well suited for automobile tires. The new cord offers high heat stability and resistance to flex fatigue, as well as good moisture resistance. Field-tested for several years, the yarn is now available in commercial quantities. "Golden Caprolan," National Aniline Division, Allied Chemical Corp., 61 Broadway, New York 6.

NEW RUBBER: Not content with improvements in the reinforcing fiber, manufacturers are seeking new ways to toughen the base material. One recent synthetic rubber mixes carbon black with liquid latex while both are in a highly turbulent condition. This gives better dispersion of the carbon black than does conventional dry mixing, and better dispersion gives tread rubber greater resistance to abrasion—particularly noteworthy in view of today's longer auto trips at higher speeds. Suitable for any product needing a sturdy rubber, this new synthetic has an added advantage: since the carbon black is premixed into the raw material, rubber-goods manufacturers can eliminate one production step and so reduce inventory and warehousing space. "Ameripol Micro-Black," Goodrich-Gulf Chemicals, Inc., 3121 Euclid Ave., Cleveland 15.

NEW FILLER: In an intriguing application of plastics, the makers of a new tire have done away with an old standby—air pressure. Called "indestructible," the tire is filled with a controlled-density urethane foam, "Polyrubber," which forms a permanent bond with both the casing and the metal rim when put in tubeless tires. Chunks can be cut out of the tire without impairing performance. More testing is to be done before the product is put on the market. The Dayton Rubber Company, Dayton, Ohio.

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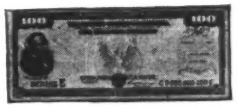
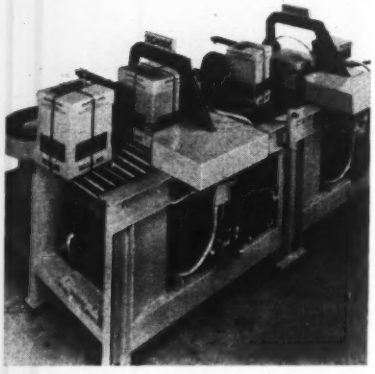
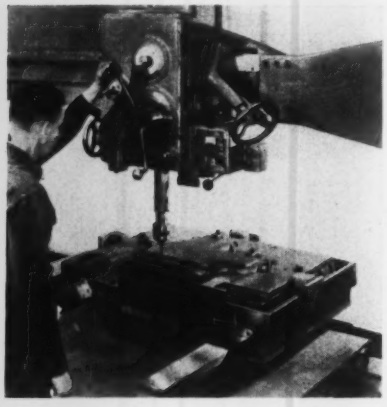
L. P. HOLLAND, skilled refinery technician, is typical of thousands of key employees in this field who are buying U.S. Savings Bonds regularly. Mr. Holland, through his company Payroll Savings Plan, is making a personal contribution to the Peace Power of our country.



METAL SUPPORTS: One workman following behind the digger can shore up trenches as wide as 70 inches with these aluminum supports designed to replace traditional 2-by-8 timber. Metal shoring pads are held fast by hydraulic jacks. They can be left in place for long periods without loss of pressure. Removal is also accomplished from above. "Saf-T-Jax," Sigma Engineering Corp., San Jose, Calif.

STRAPPING UNIT: Operatorless metal-banding machine will automatically put one or two straps on packages or bundles regardless of their shape or size. The unit can be mounted flush with a conveyer to receive packages directly from the production line. Maintenance is minimal since a standard electric motor is used. "Model M20," Signode Steel Strapping Company, 2600 North Western Ave., Chicago 47.





TAPE-RUN TABLE: Positioning table that is automatically operated by punched tape will work to an accuracy of millionths of an inch. Since the tape need not be rethreaded each time, the positioner is especially useful on job-lot runs. The tape itself is "read" by air pressure, preventing damage to the holes and assuring exact duplication of pieces. American Tool Works Company, Pearl St., Cincinnati 2, Ohio.

ABRASIVE FINISHER: Discs of this finishing material give fabricated metals a finish described simply as "unique," while cutting costs and increasing production appreciably. Finishes damaged in shipping can be easily touched up on-the-job, too. Possibilities of the material for reducing pickling operation costs and time are being investigated. "Scotch-Brite," Minnesota Mining & Manufacturing Company, St. Paul 6, Minn.

FLAME-PROOF CIRCUITRY: Paper-base plastic laminate intended primarily for printed circuit boards offers good punching results with a minimum of heating, extinguishes itself when ignited. It's manufactured both as a standard laminated plastic and in copper-clad form. "Phenolite XXXP-475," National Vulcanized Fibre Company, 1059 Beech St., Wilmington 99, Del.

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THREE-IN-ONE: One solution in a single tray now replaces the old three-tray developing and fixing of photographic film. Also, temperature control of the developer is much less critical. Developing and fixing of the film takes up to six minutes; another solution will make a print in three minutes. Now available for consumer use; solutions for X-ray films, microfilms, and other industrial films are promised within a few months. "Unibath," Cormac Chemical Corp., 80 Fifth Ave., New York 11.

•

TOTE BAG: Multiwall bags now have a double side-handle capable of supporting weights of at least 50 pounds. Initially used in packaging fertilizer and feeds, the bag is as easy to carry as a suitcase and offers a good sales pitch to the consumer. Multiwall Department, Hudson Pulp & Paper Corp., 477 Madison Ave., New York 22.

•

ODORLESS DEODORANT: A chemical that destroys unwanted smells but has no odor of its own promises to make life happier for workers in unpleasant atmospheres. The chemical, developed by McGraw-Edison Company, can be sprayed directly into the air or used in wash water on walls and floors. It inhibits bacteria and mildew, too, and is safe enough to be used on dishes. National Cylinder Gas Division, Chemetron Corp., 840 North Michigan Ave., Chicago 11.

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STURDY RIBBON: For originals designed for photographic reproduction, a new carbon ribbon gives clear typing without unusual attachments on the typewriter. Using a base of Du Pont's Mylar, the ribbon has good tensile strength that eliminates the need for special guides and feed mechanisms. Photostat Corp., P.O. Box 1970, Rochester 3, N.Y. —R.P.

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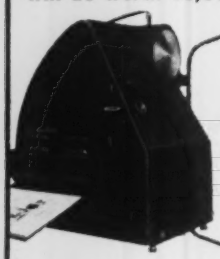

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The Reviewing Stand

Listening to the Leaders

The art of interviewing begins with being a perceptive listener—probably the most difficult restraint to put on an eager journalist. Some reporters prod to get a spirited or candid response. Others use the legal device of baited or loaded questions, which trap the subject into saying more than he intended and discussing topics which he might consider out of bounds.

The dilemma of the interviewer is that he must respect the amenities—but if he is too polite, he may end with a lot of pleasantries, one-sided opinion, and the quarry out of the corner.

The business man is often an awkward conversationalist when he is talking for publication. Where he is specific in personal discussion, under the pressure of a formal interview he often retreats in generalization, equivocation, and hedging. Occasionally, when he is pinked by an adversary—as may happen in a public hearing—his answers are equally pointed.

A preliminary agreement on the area to be discussed is a great asset to interviewer and subject. When the interviewer has the business leader's confidence, respects the rules of the game, and does the big share of the listening, he is likely to get more information than he expected.

DUN'S REVIEW tries in each of its pictorial interviews to stimulate the subject's thinking in the hope of revealing the true stature of the man and the merits of his ideas, plans, and programs. We want to unveil him as a living person, not as a carefully rehearsed automaton answering edited questions with rigid answers. We may not get company secrets, but we insist on lucid opinion and honest facts. And we are willing to listen in order to get them.

The Rewards of Failure

There is nothing so rewarding as, on occasion, the benefits of failure in the trial and error of research. Charles Goodyear's continued frustration in his attempts to harden rubber resulted in the accidental discovery of a vulcanizing process. Thomas Edison, baffled by the failure of his experiments seeking a substitute for lead in batteries, said, "I have discovered 20,000 things that won't work"—but every failure became a valuable fact for future reference. Edison never excused failure. During World War I, he studied the U-boat menace to shipping and devised a canvas sea anchor as a means of providing quick, evasive turns for merchant ships. During the actual test off the New Jersey coast, the anchor was dropped as the ship ran at full speed, but the huge canvas bag merely tilted the craft to a perilous list. Edison, who had high hopes for his invention, wasted no energy on regrets. "Won't work, Charlie," he said to a companion. Edison never lost the honesty to face failure or the humility to learn another lesson.

Statistical Suffocation

Economic projections and business perspective work best as a team. Some economics-minded executives permit their judgment to be weighed down with statistical sludge, but the business picture is clearest when the significant elements can be viewed at a distance. Selectivity among a few pertinent indices can be more helpful in a specific problem than a frantic accumulation of all available statistics.

Index numbers are nothing new. Three hundred years ago the Italians counted ships clearing the harbor and kept records measuring the flow of gold and silver from Latin America. And our own wholesale price series are welded together from sources that, in several cases, date back to Colonial times. The secret of using statistics lies in skill with the few, rather than familiarity with the many.

No Horse Sense

The electronic computer is a cautious gambler. In a test against five or six big horse derbies it picked "place and show" with consistent regularity but missed frequently on the winners—all of which may prove that to come in first you have to do a little more than any machine memory can figure out. Which is as it should be. If betting were reduced to actuarial selection on past performance, the price of fancy horse flesh would drop a few decimal points, and the bookies would be playing the numbers instead of the ponies.

—A.M.S.

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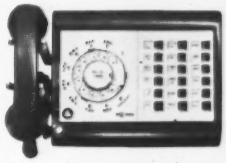

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